USDA United States Department of Agriculture
Natural Resources Conservation Service

Colorado
Water Supply Outlook Report
February 1, 2020

Former Colorado Snow Survey hydrologist Lexi Landers, sampling the Longs Peak Snow Course for her final day in Colorado. She has started a position as a forecast hydrologist in Montana working for the NRCS National Water and Climate Center. The snow course had 6.4 inches of snow water equivalent as of January 31st, which is 108 percent of the median for this date.

Photo By: Brian Domonkos Date: January 31th, 2020

REMINDER: We are soliciting field work photos from the field again this year. Each month we will pick one to grace the cover of this report! Please include information on where, when and of who/what the photo was taken.

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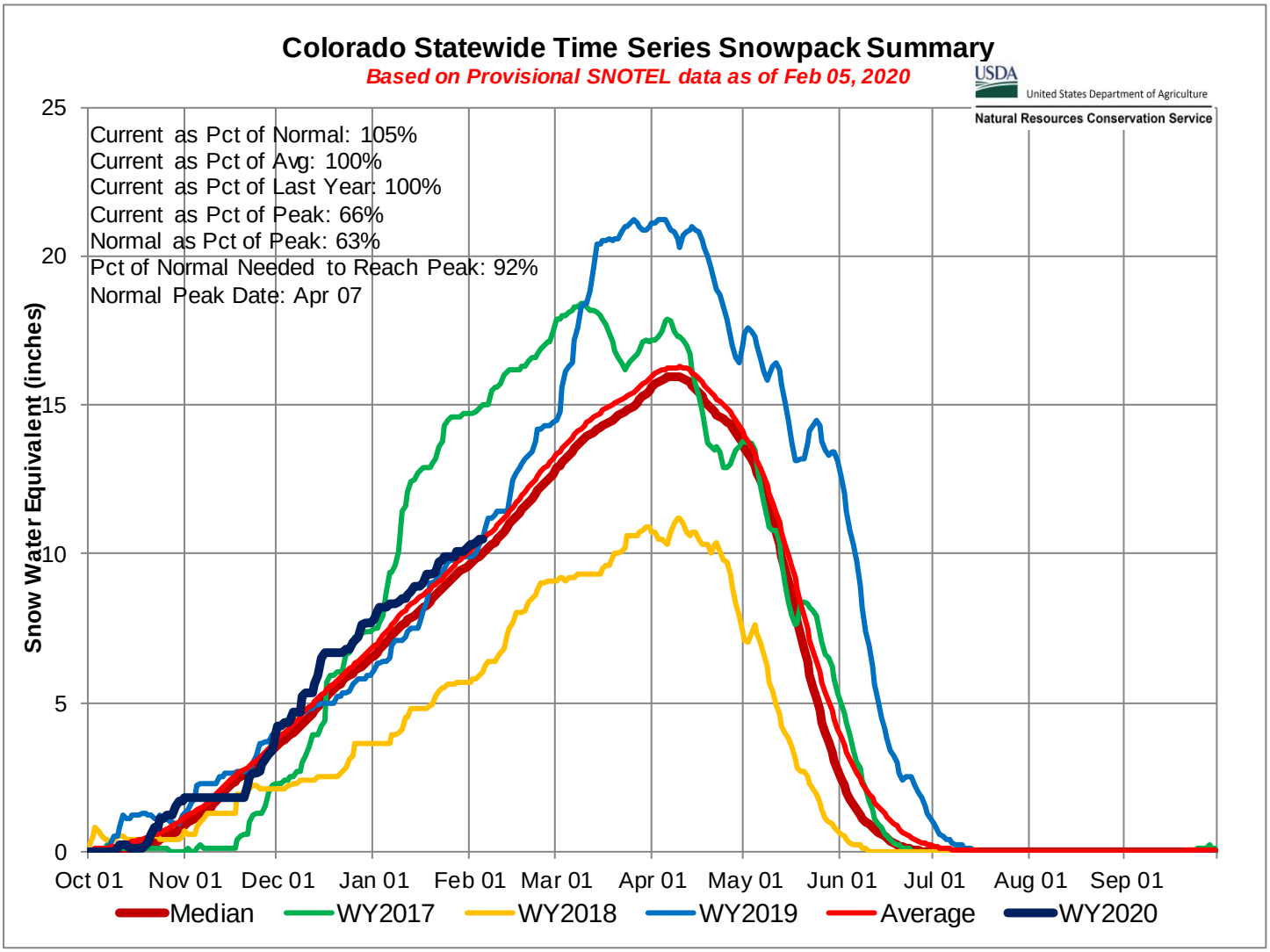
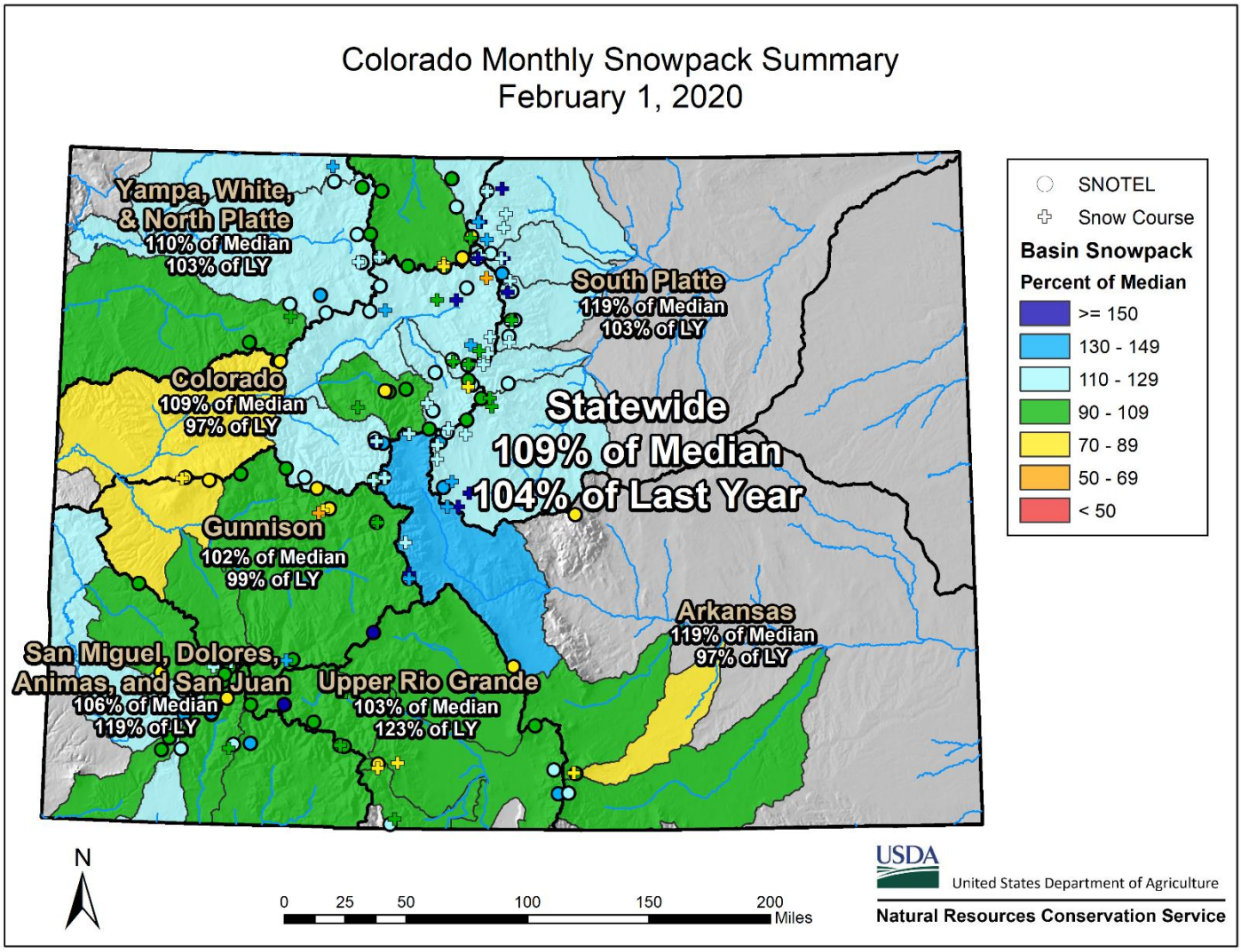
Colorado Statewide Water Supply Conditions

Summary



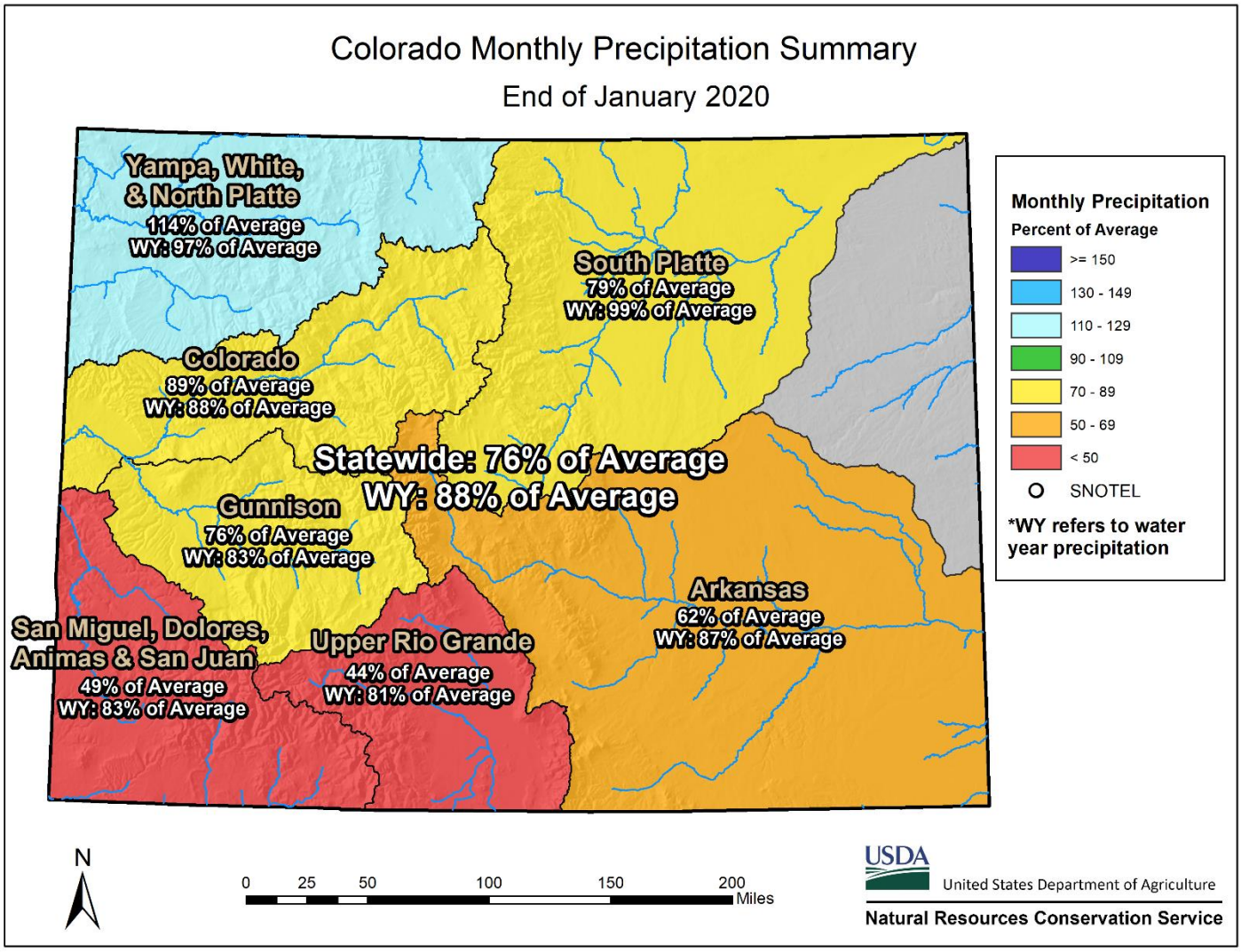
The Colorado water supply outlook is for mostly normal conditions at this point in the year. While water year to date precipitation is near to below normal across the state the current snowpack holds near to above normal values in all major basins. As of February 1st, water year precipitation was 88 percent of normal and snowpack was 109 percent of normal statewide. This came to be after widely varying precipitation patterns in January with southern Colorado receiving far less precipitation than the northern basins. This ranged from 44 percent of normal in the Rio Grande to 114 percent in the combined Yampa and White River basins. Streamflow forecasts have largely followed the water year precipitation trend more closely than current snowpack after a drier than normal fall. This has led to most seasonal forecasts to be for near to below average April-July volumes but with the vast majority calling for at least 75% of average flows. Also following precipitation trends, forecasts are some of the highest in the South Platte basin and more consistently low in Southern Colorado. Statewide reservoir storage is currently 105 percent of normal with a low of 85 percent of average in the Rio Grande and a high of 127 percent in the combined Yampa and White basins. At this point in the season over 65 percent of the normal peak snowpack has been accumulated. This means that while there is still plenty of snow accumulation season to come and a lot can still change, we are starting to get a more clear picture of what summer water supply may be looking like.

Snowpack



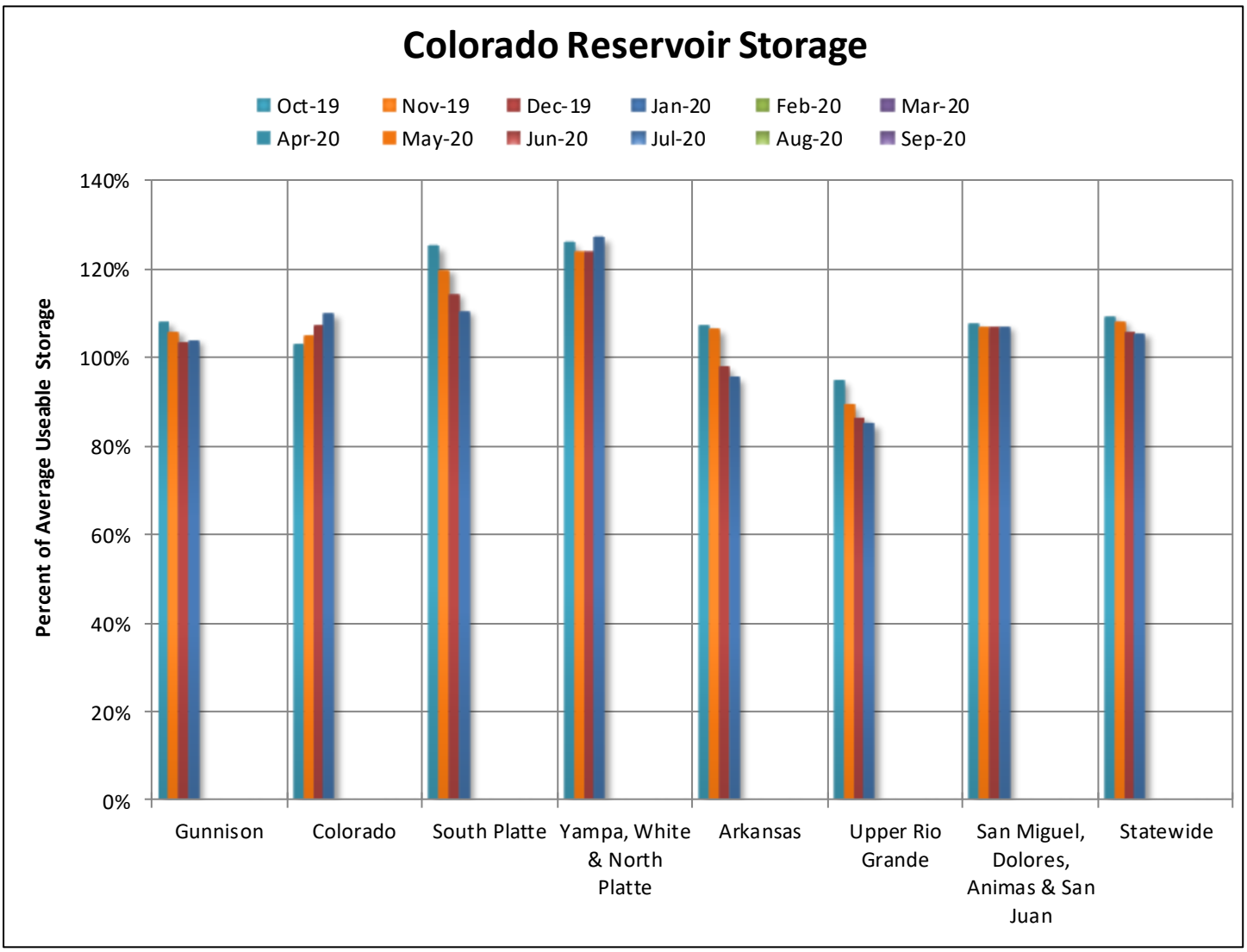
As of February 1st Colorado's mountain snowpack was above normal in all major basins and collectively was 109 percent of normal statewide. Throughout the water year, water precipitation patterns across the state have varied widely month to month but have left snowpack across the major basins within 17 percent of each other. On the high end both the Arkansas and South Platte basins have 119 percent of normal snowpack with the rest of the state is closely clustered between 102 to 109 percent of normal. The Upper Colorado basin is holding 109 percent of normal snow water equivalent but with the western portions of the basin is generally holding less than the areas further upstream to the east. Just to the north the combined Yampa and White basins along with the North Platte are holding slightly less snow as a percent of normal, at 108 and 107 percent, respectively. The major basins of far Southwest Colorado currently have the least plentiful snowpack in the state but are still only slightly below other basins and have slightly above normal values. The Gunnison has 102 percent of normal, the Rio Grande 103 percent, and the combined San Miguel, Dolores, Animas, and San Juan basins have 106 and 103 percent of normal snowpack, respectively. There is still about two months left in the primary snowpack accumulation season which commonly peaks in mid-April. While there is still a lot that can change over that time, approximately two-thirds of the normal peak amount has already accumulated statewide. This places Colorado in an encouraging position for continuing to work towards an ample snowmelt runoff season.

Precipitation



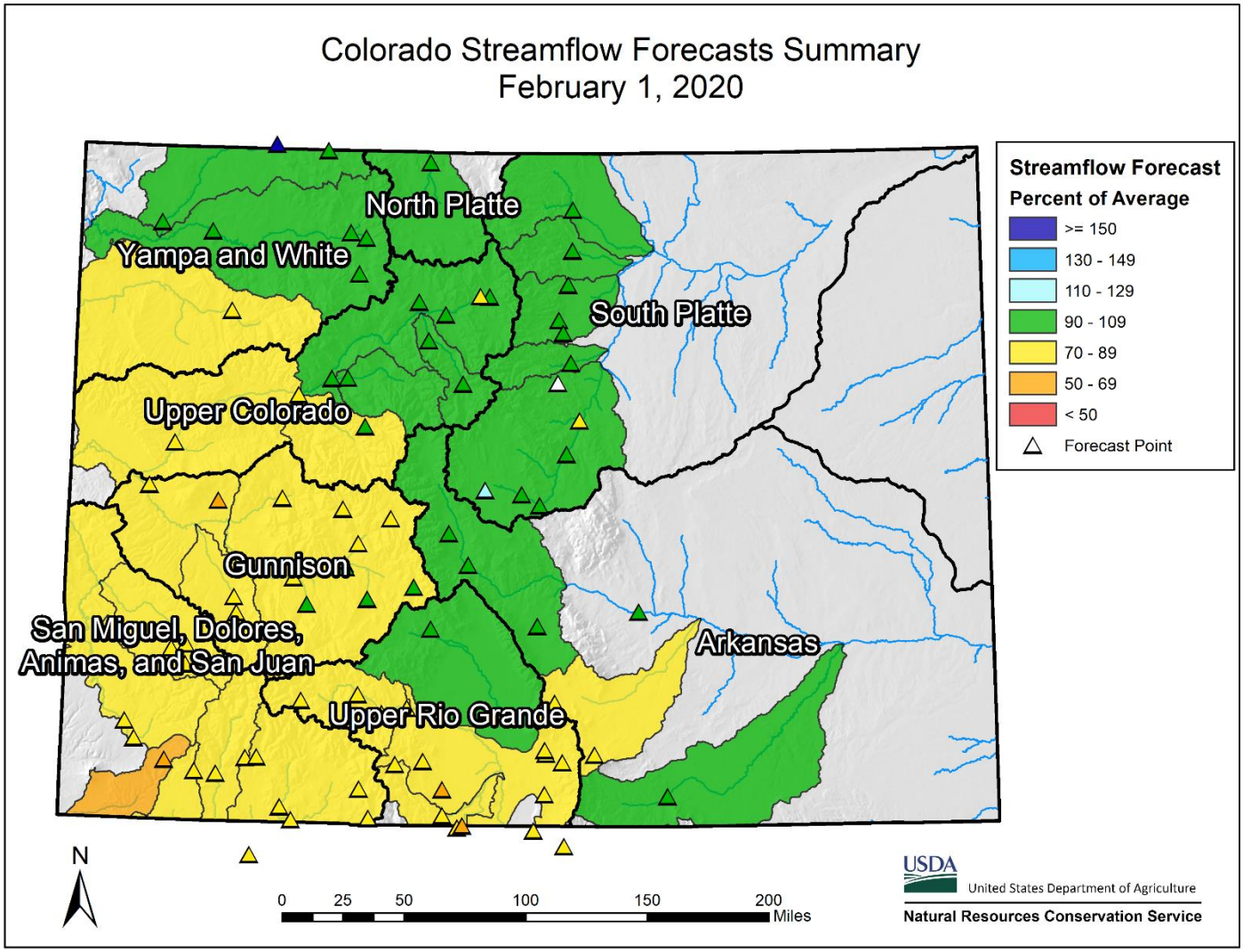
For January, Colorado was drier than normal receiving only 76 percent of average precipitation for the month. In the north, the combined Yampa, White, North Platte river basin received precipitation from many small localized storm systems ending the month with 114 percent of average monthly precipitation. Particularly the Park Mountain Range and northwestern slopes of the Flattops Mountains experience significant January precipitation ranging from 84 percent of average at Bear River SNOTEL to 152 percent average at Divide Peak SNOTEL. Only 4 out of 26 SNOTEL sites registering below average precipitation for the basin. River basins to the East and South received significantly less precipitation. The South Platte, Colorado, and Gunnison basins ended the month 79, 89 and 76 percent of average, respectively. Despite two significant mid-month precipitation events, both the Upper Rio Grande and combined San Miguel, Dolores, Animas, San Juan basins were the driest in the state, receiving only 44 and 49 percent of average precipitation, respectively. Precipitation in these basins ranged significantly. Closer to normal precipitation was observed at locations in the northwestern San Juan Mountains such as at Red Mountain Pass SNOTEL which measured 87 percent of normal precipitation for January. The eastern San Juan Mountains experience some of the driest conditions in the state with the Upper Rio Grande SNOTEL measuring only 13 percent of normal. These trends worsened the statewide water-year-to-date cumulative precipitation deficit which ended the month at 88 percent of normal. Only the combined Yampa, White, North Platte and South Platte had near-normal water-year-to-date precipitation of 97 and 99 percent of average respectively.

Reservoir Storage



Statewide reservoir storage has been slowly dropping throughout the water year but is still above average overall. The only two basins in Colorado with below average reservoir storage are the Upper Rio Grande and the Arkansas which have 86 and 96 percent of normal storage, respectively. Alternatively, on the high end the reservoirs of the Yampa River basin are collectively holding 127 percent of their average value. In the South Platte storage has been steadily dropping throughout the water year but still resides with the second highest amount of storage in the state with 111 percent of average. On the west side of the Continental Divide the Upper Colorado River basin is in a very similar situation with 110 percent of average reservoir volumes. Moving further into the southwest part of the state the Gunnison and combined San Miguel, Dolores, Animas, and San Juan basins are holding less but still above average water volumes. The Gunnison basin has 104 percent of average reservoir storage and the combined Southwest basins 107 percent. While there is a relatively wide spread of storage values across Colorado it is good that they are mostly surrounding average amounts. This should allow for flexible operations as snowmelt runoff gets closer.

Streamflow

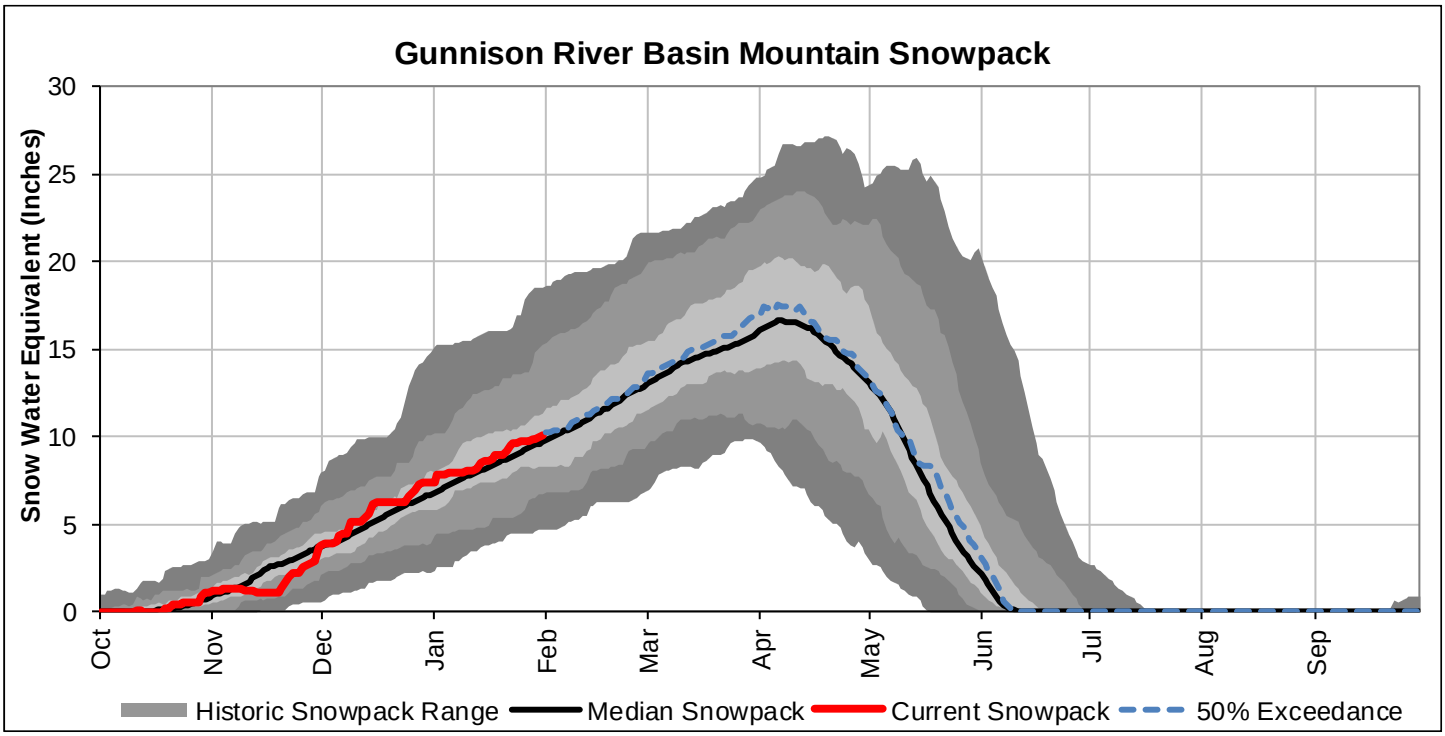


January did not help improve drier conditions that persist in much of the state due to a dry summer and fall that depleted soil moisture, most notably in southern Colorado. Despite an above-average snowpack, forecasts are predicting below-average streamflow for all but six forecast points in the state. Northern basins generally have more plentiful outlooks than southern basins. Forecasts for northern basins show little change from a month ago with average forecasted volumes for the combined Yampa, White, Little Snake and South Platte to be 98 and 96 percent of normal. The situation worsened during January for southwestern basins. The combined San Miquel, Dolores, Animas, San Juan and Upper Rio Grande basins are now forecasted to have the lowest average streamflow volumes in the state at 76 and 77 percent of normal, respectively. With a dry January, the Arkansas basin is now forecasted to have slightly below average streamflow at 97 percent. While not as dry as basins in the southwest, the Colorado and Gunnison river basins are forecasted to have below average streamflow at 91 and 81 percent of normal. Statewide, 22 forecast points have forecasted volumes below 80 percent and only six forecast points have forecasts greater than 100 percent. Three of these points are in South Park near Fairplay where the basin has maintained a substantially above-average snowpack. This early in the season there is still uncertainty reflected in the range of possible runoff volumes shown in detail in the basin Water Supply Forecasts presented below.

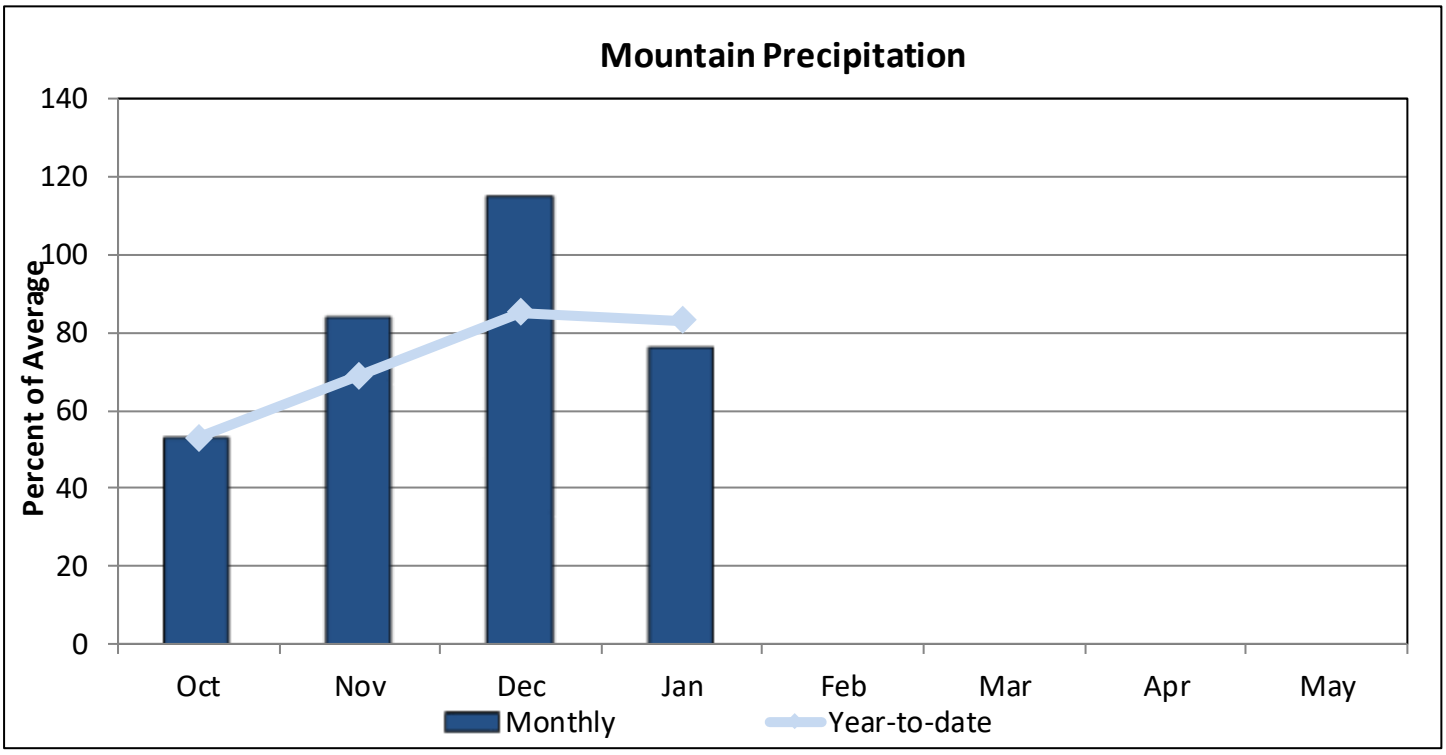
GUNNISON RIVER BASIN

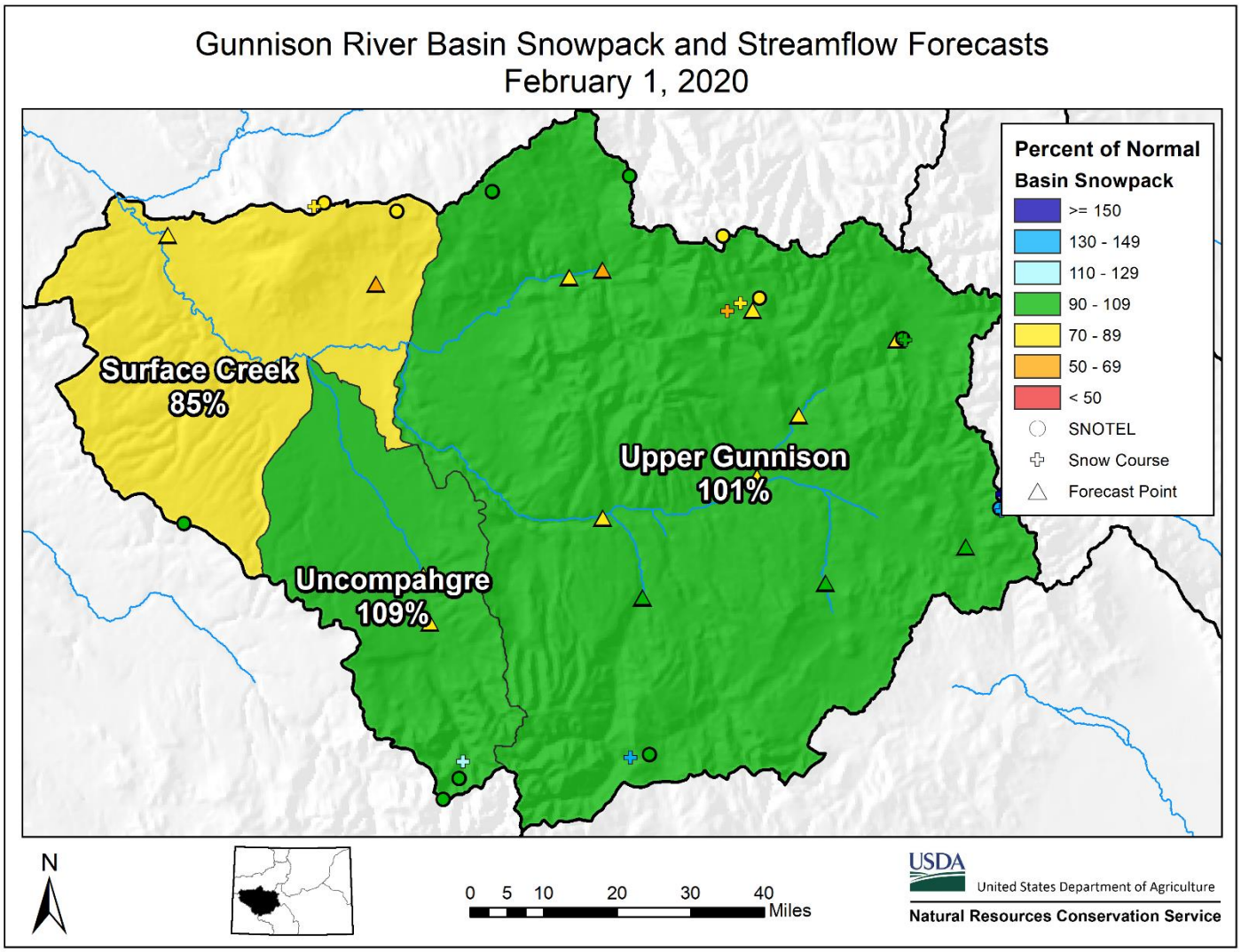
February 1, 2020

Snowpack in the Gunnison River basin is near normal at 102% of the median. Precipitation for January was 76% of average which brings water year-to-date precipitation to 83% of average. Reservoir storage at the end of December was 104% of average compared to 61% last year. Current streamflow forecasts range from 65% of average for Surface Creek at Cedaredge to 95% for the Lake Fork and Tomichi Creek near Gunnison.



*SWE values calculated using daily SNOTEL data only

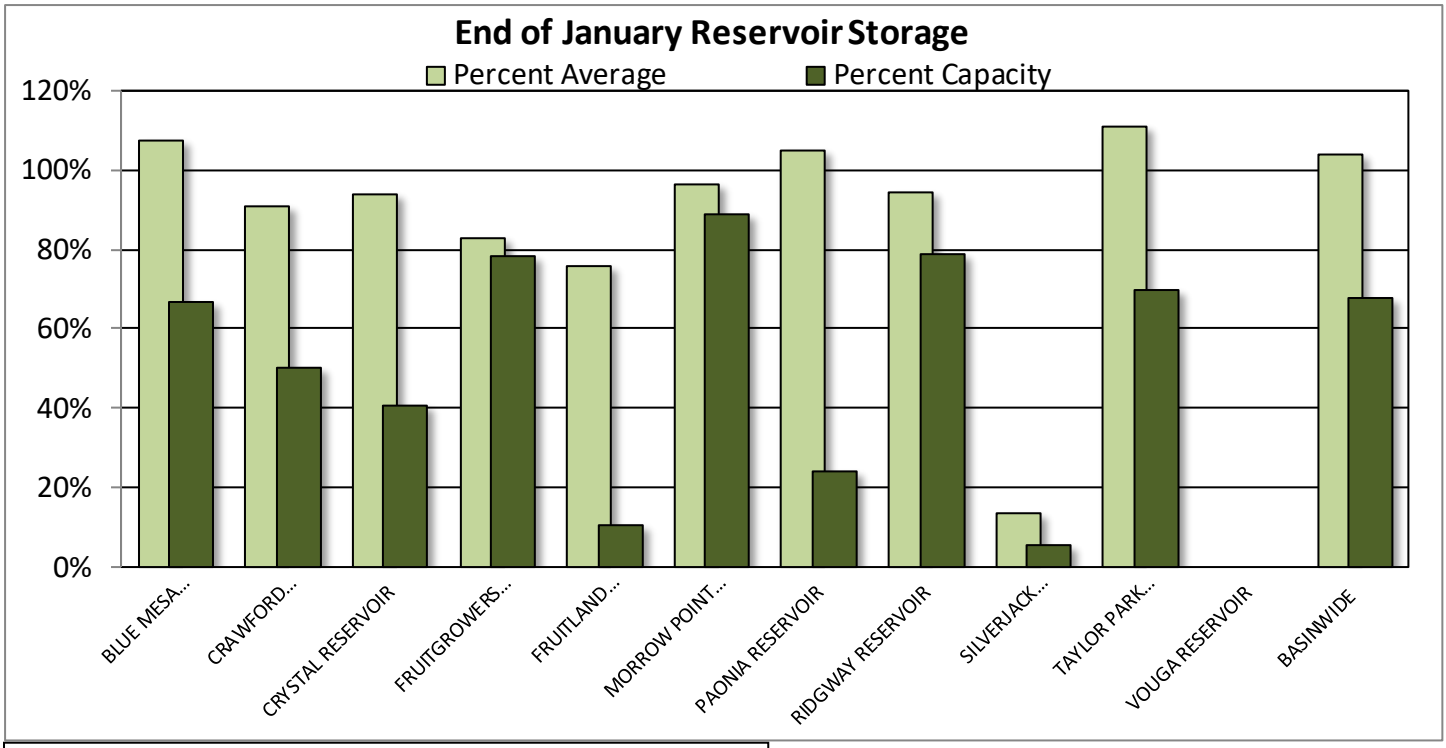




Watershed Snowpack Analysis February 1st, 2020

Sub-Basin	# of Sites	% Median	Last Year % Median
Upper Gunnison	17	101	103
Surface Creek	3	85	105
Uncompahgre	4	109	106
Basin-Wide Total	21	102	104

*SWE values calculated using first of month SNOTEL data and snow course measurements



Note: Vouga Reservoir storage gauge is currently down and inaccessible.

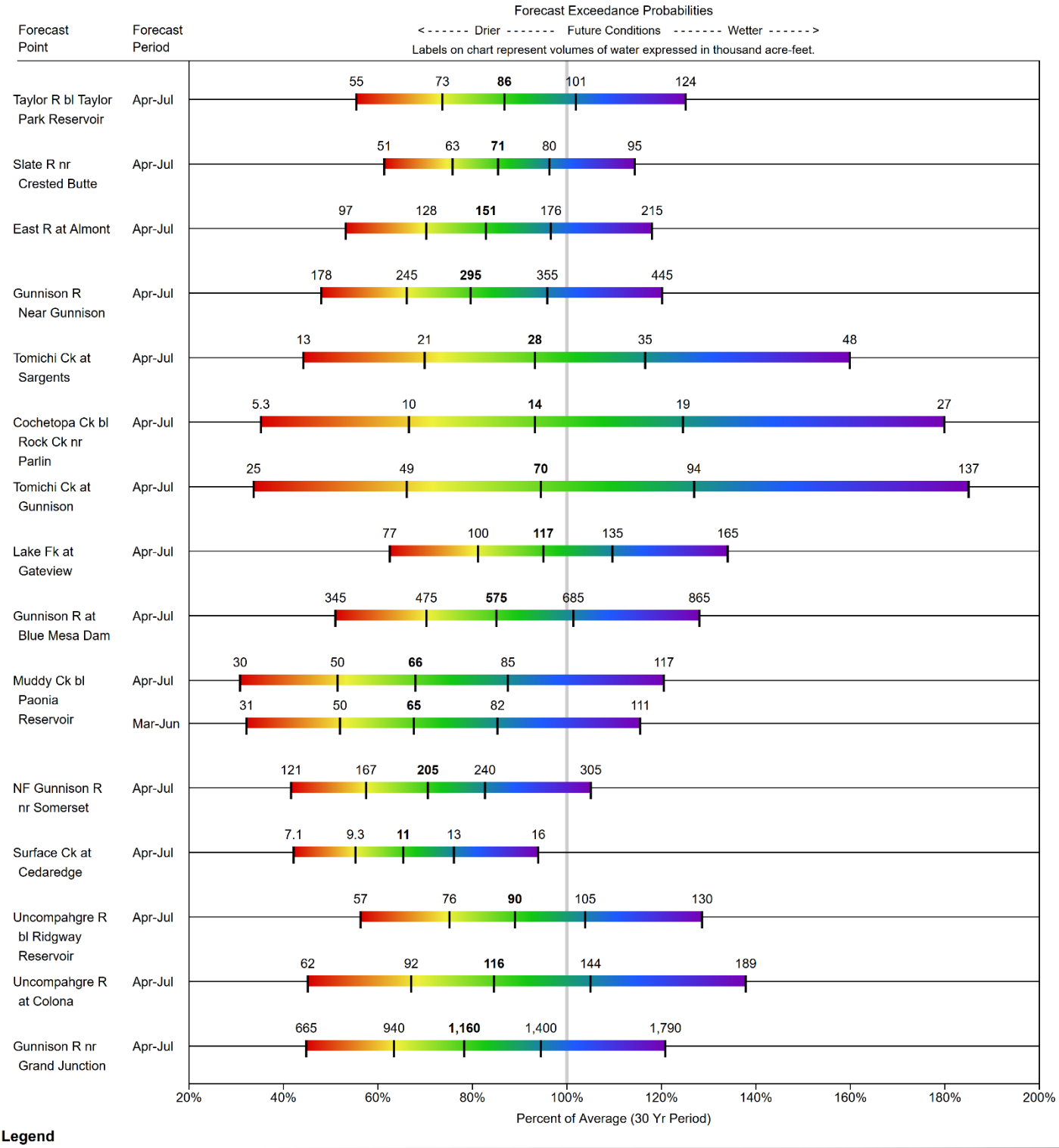
Reservoir Storage End of January 2020

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
BLUE MESA RESERVOIR	554.0	251.7	514.6	830.0
CRAWFORD RESERVOIR	7.0	1.5	7.7	14.0
CRYSTAL RESERVOIR	7.1	7.4	7.6	17.5
FRUITGROWERS RESERVOIR	2.8	2.0	3.4	3.6
FRUITLAND RESERVOIR	1.0	0.4	1.3	9.2
MORROW POINT RESERVOIR	107.2	106.8	111.4	121.0
PAONIA RESERVOIR	3.7	3.3	3.5	15.4
RIDGWAY RESERVOIR	65.3	46.4	69.2	83.0
SILVERJACK RESERVOIR	0.7	1.1	5.3	12.8
TAYLOR PARK RESERVOIR	74.1	59.2	66.9	106.0
VOUGA RESERVOIR		0.2		0.9
BASINWIDE	822.9	479.9	790.9	1213.4
Number of Reservoirs	10	11	10	11

GUNNISON RIVER BASIN

Water Supply Forecasts

February 1, 2020



Legend

95% or 90% Exceedance — There is a 95%/90% chance that flows will exceed this volume

70% Exceedance — There is a 70% chance that flows will exceed this volume

50% Exceedance — There is a 50% chance that flows will exceed this volume

30% Exceedance — There is a 30% chance that flows will exceed this volume

10% or 5% Exceedance — There is a 10%/5% chance that flows will exceed this volume

When selected, the following historic streamflow values and statistics will be shown.

Period of Record Minimum Streamflow KAF (Year)

1981-2010 Normal Streamflow KAF

Observed Streamflow KAF

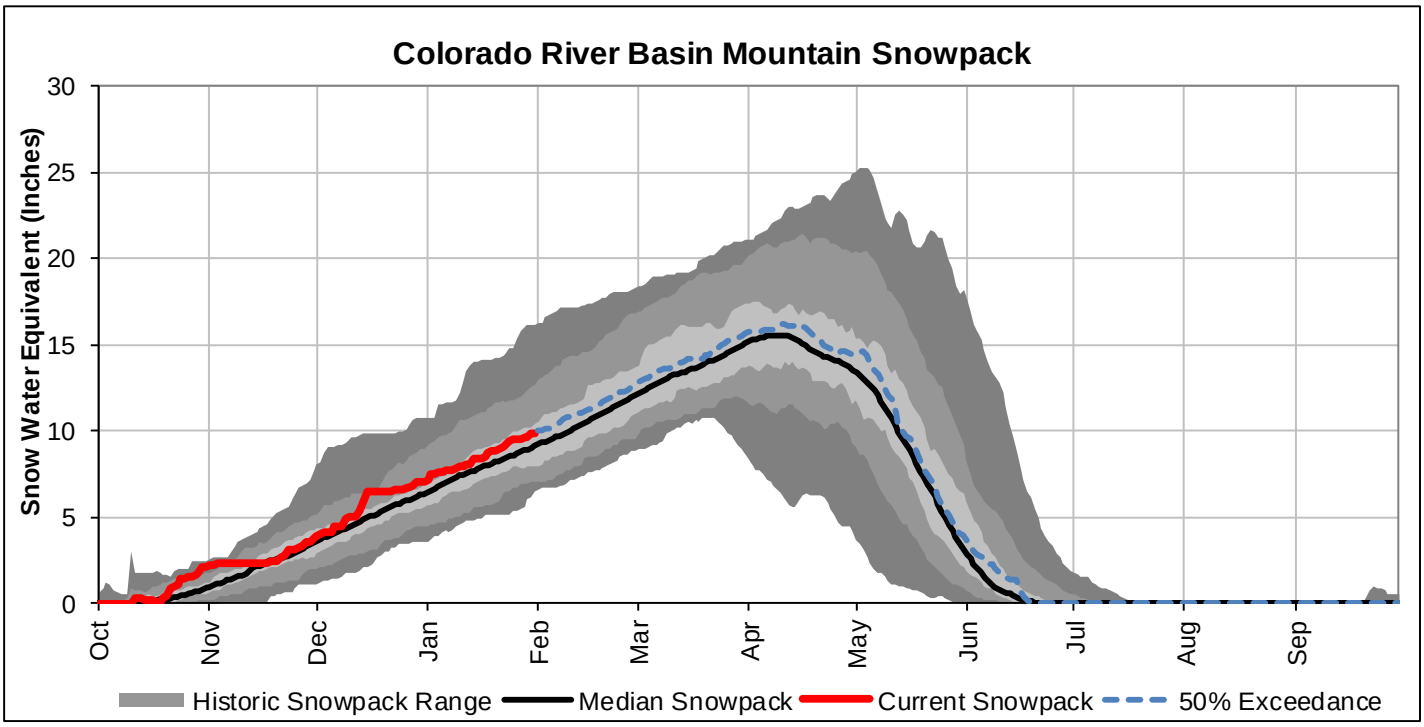
Period of Record Maximum Streamflow KAF (Year)

Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

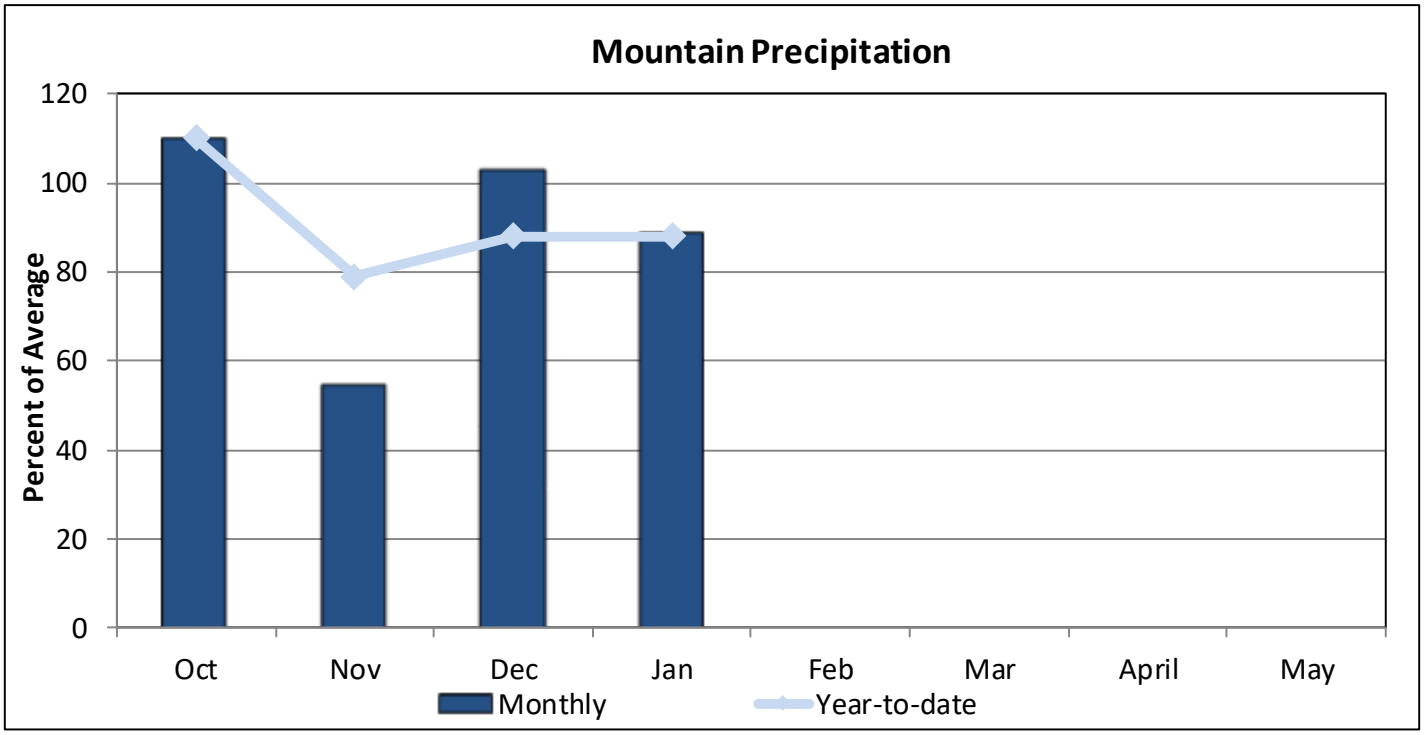
UPPER COLORADO RIVER BASIN

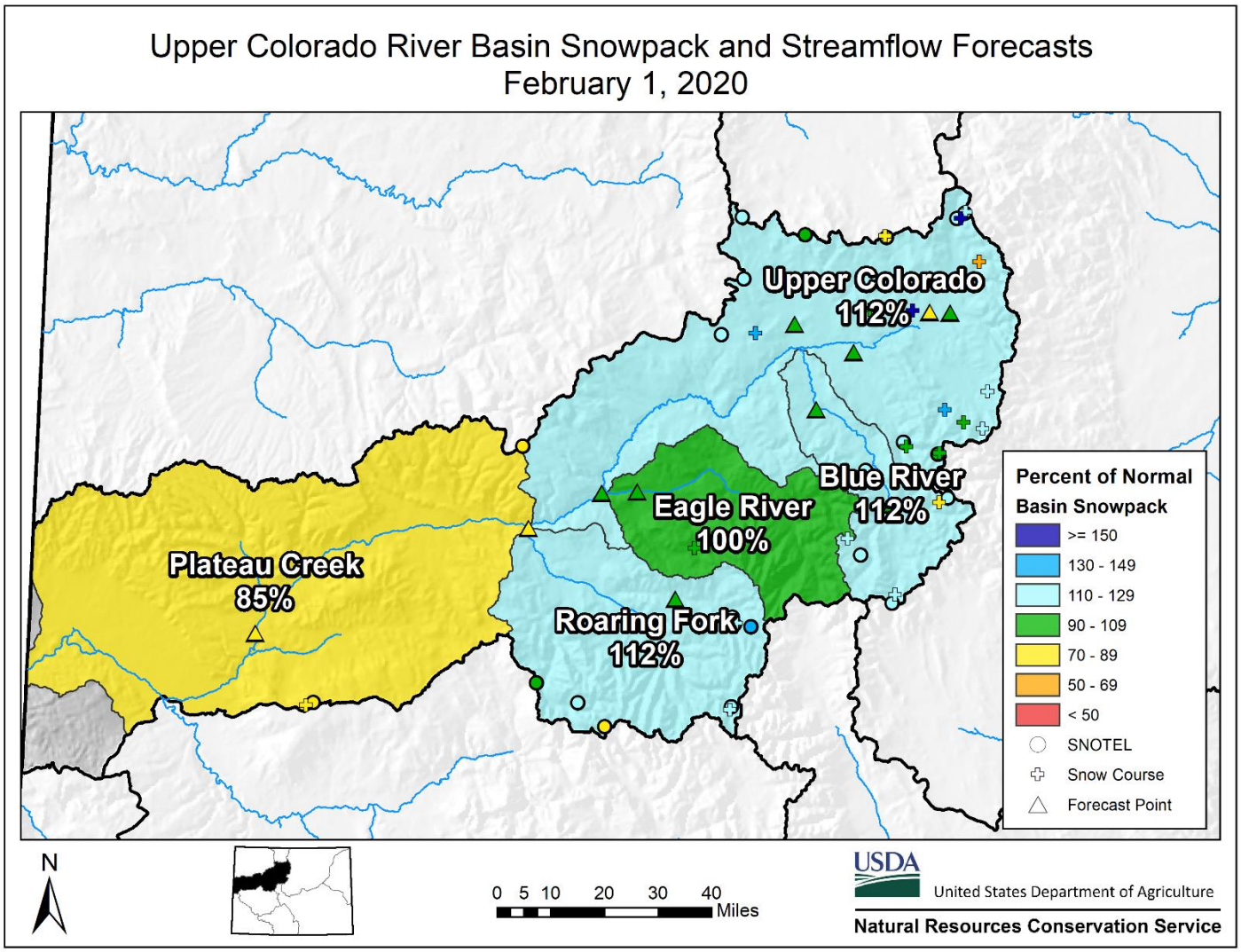
February 1, 2020

Snowpack in the Colorado River basin is above normal at 109% of the median. Precipitation for January was 89% of average which brings water year-to-date precipitation to 88% of average. Reservoir storage at the end of December was 110% of average compared to 91% last year. Current streamflow forecasts range from 85% of average for the Willow Creek Reservoir inflow and the Roaring Fork at Glenwood Springs to 93% for the inflow to Green Mountain Reservoir and Dillon Reservoir.



*SWE values calculated using daily SNOTEL data only

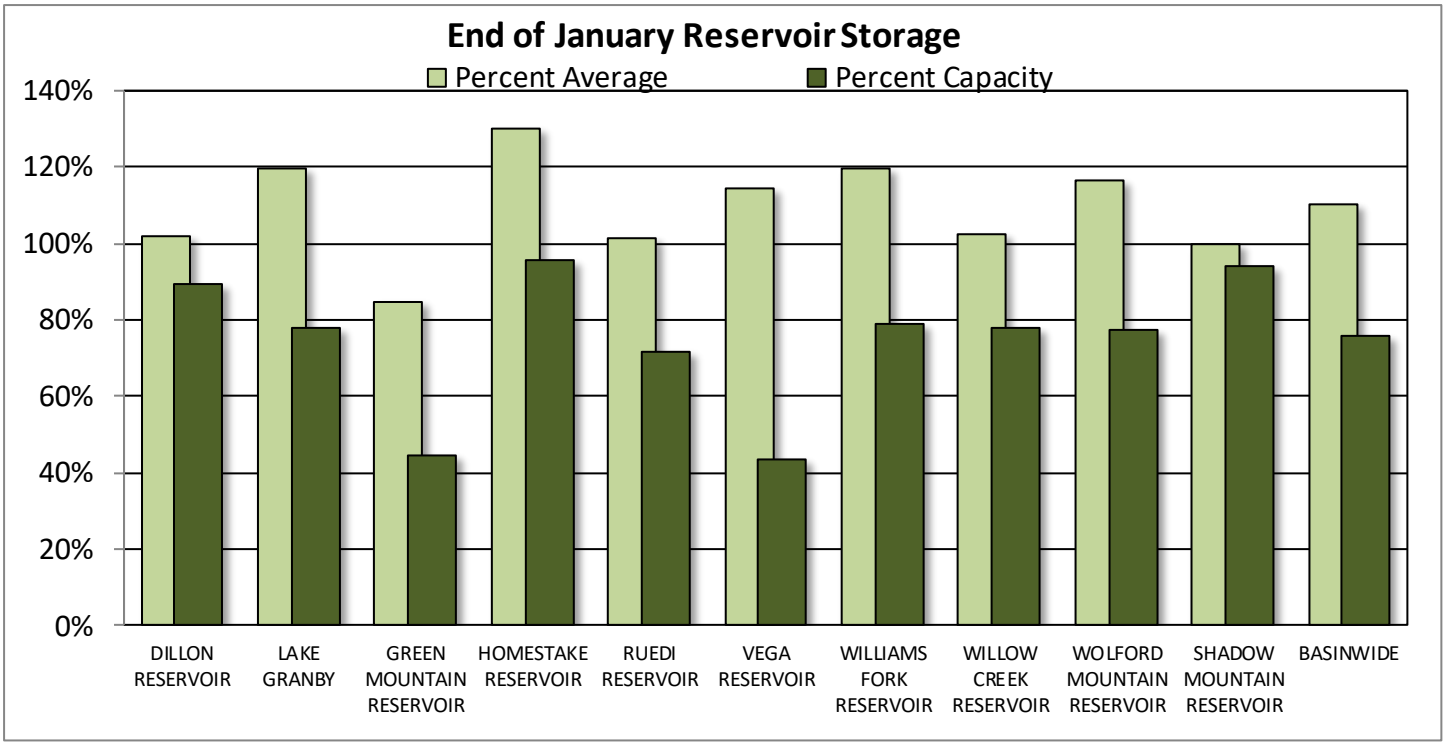




Watershed Snowpack Analysis February 1st, 2020

Sub-Basin	# of Sites	% Median	Last Year % Median
Blue River	8	112	129
Upper Colorado	36	112	112
Muddy Creek	5	118	113
Eagle River	5	100	104
Plateau Creek	6	85	104
Roaring Fork	9	112	115
Williams Fork	5	113	117
Willow Creek	5	106	110
Basin-Wide Total	48	109	112

*SWE values calculated using first of month SNOTEL data and snow course measurements



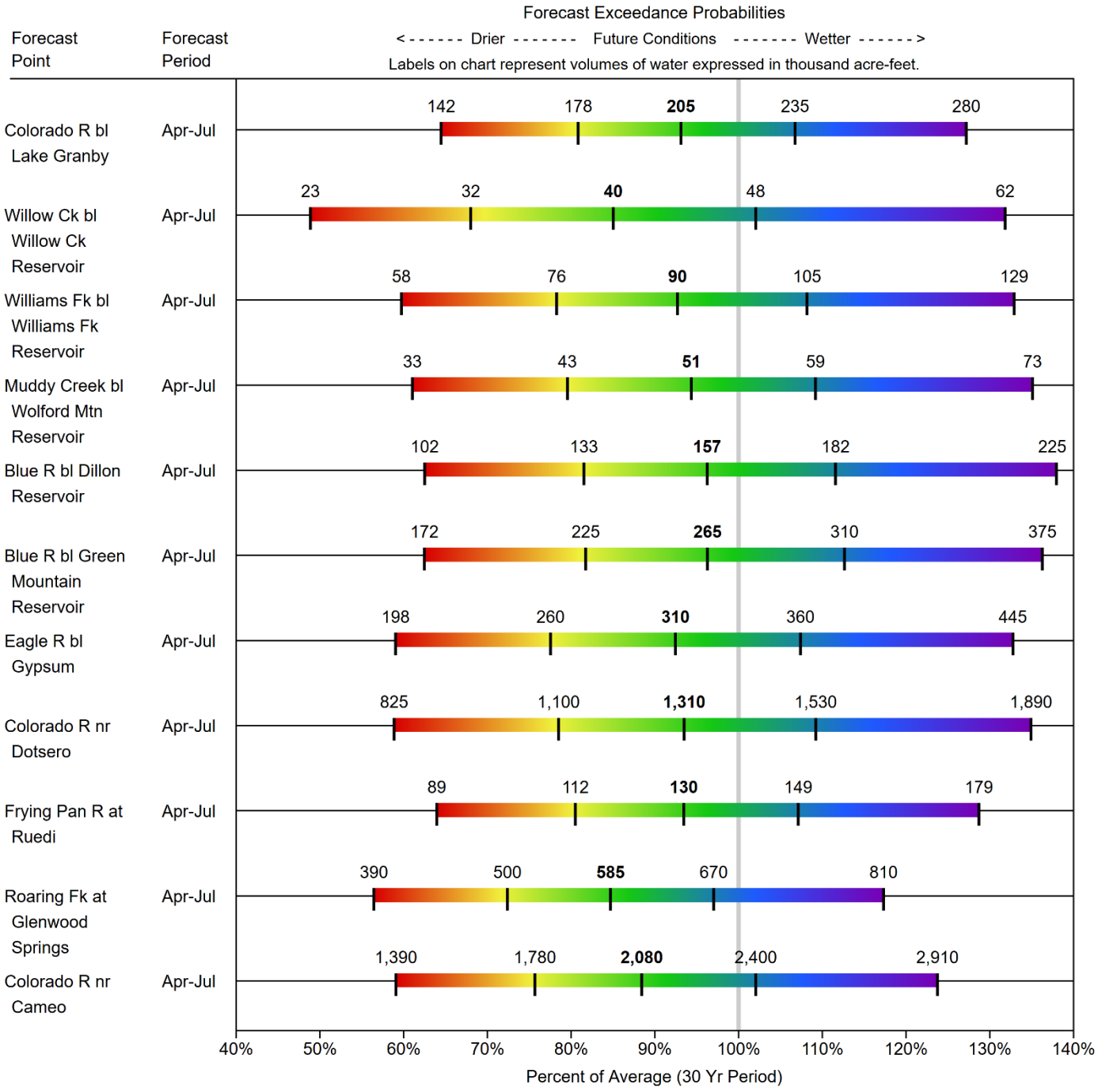
Reservoir Storage End of January 2020

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
DILLON RESERVOIR	222.9	175.8	218.4	249.1
LAKE GRANBY	363.1	316.9	302.9	465.6
GREEN MOUNTAIN RESERVOIR	65.1	48.2	77.1	146.8
HOMESTAKE RESERVOIR	41.2	41.3	31.7	43.0
RUEDI RESERVOIR	73.2	58.1	72.4	102.0
VEGA RESERVOIR	14.2	5.6	12.4	32.9
WILLIAMS FORK RESERVOIR	76.3	67.3	63.8	97.0
WILLOW CREEK RESERVOIR	7.1	6.7	6.9	9.1
WOLFORD MOUNTAIN RESERVOIR	50.8	34.1	43.6	65.9
SHADOW MOUNTAIN RESERVOIR	17.3	17.3	17.3	18.4
BASINWIDE	931.1	771.4	846.5	1229.8
Number of Reservoirs	10	10	10	10

UPPER COLORADO RIVER BASIN

Water Supply Forecasts

February 1, 2020



Legend

95% or 90% Exceedance	70% Exceedance	**50% Exceedance**	30% Exceedance	10% or 5% Exceedance
There is a 95%/90% chance that flows will exceed this volume	There is a 70% chance that flows will exceed this volume	There is a 50% chance that flows will exceed this volume	There is a 30% chance that flows will exceed this volume	There is a 10%/5% chance that flows will exceed this volume

When selected, the following historic streamflow values and statistics will be shown.

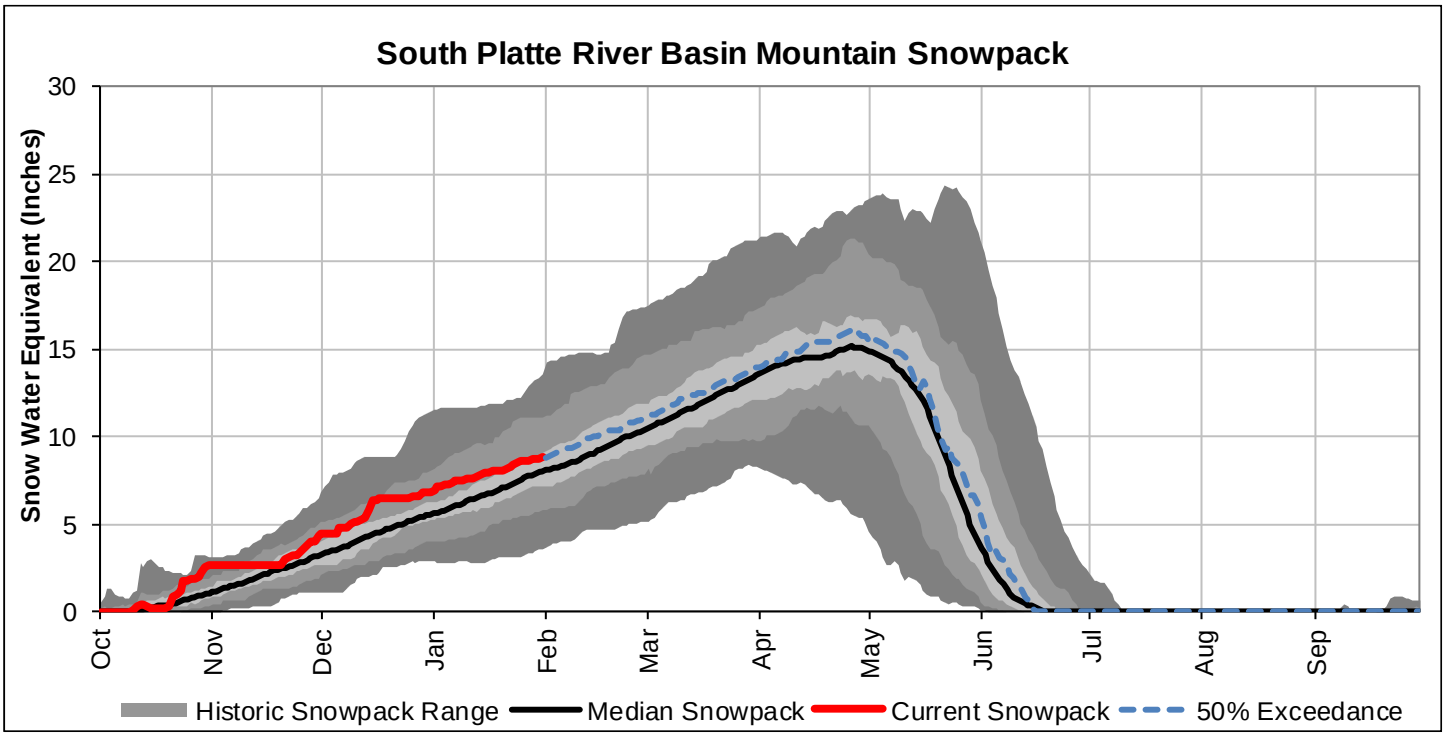
Period of Record Minimum Streamflow KAF (Year) | *1981-2010 Normal Streamflow KAF* | *Observed Streamflow KAF* | *Period of Record Maximum Streamflow KAF (Year)*

Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

SOUTH PLATTE RIVER BASIN

February 1, 2020

Snowpack in the South Platte River basin is above normal at 119% of the median. Precipitation for January was 79% of average which brings water year-to-date precipitation to 99%. Reservoir storage at the end of December was 111% of average compared to 104% last year. Current streamflow forecasts range from 89% of average for South Platte River at South Platte to 114% for the inflow to Antero Reservoir.



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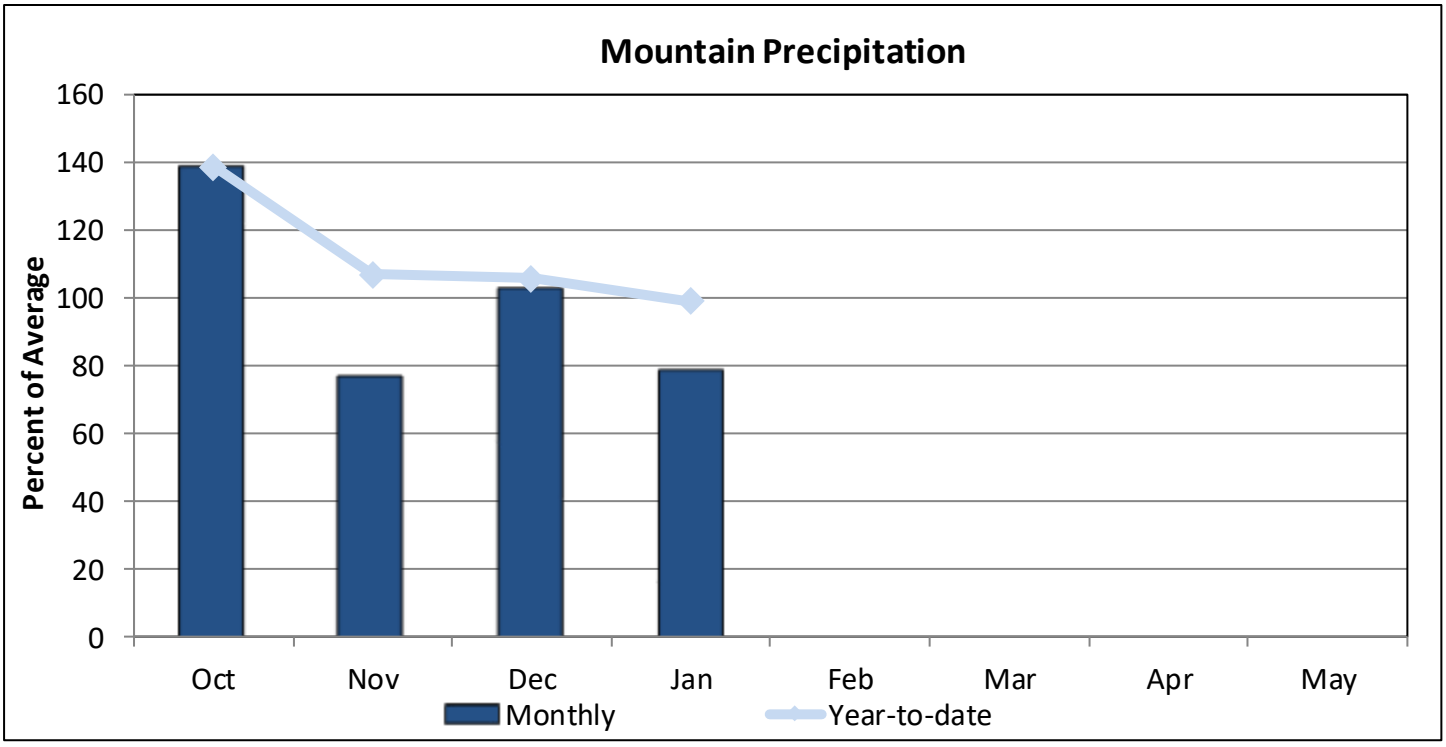
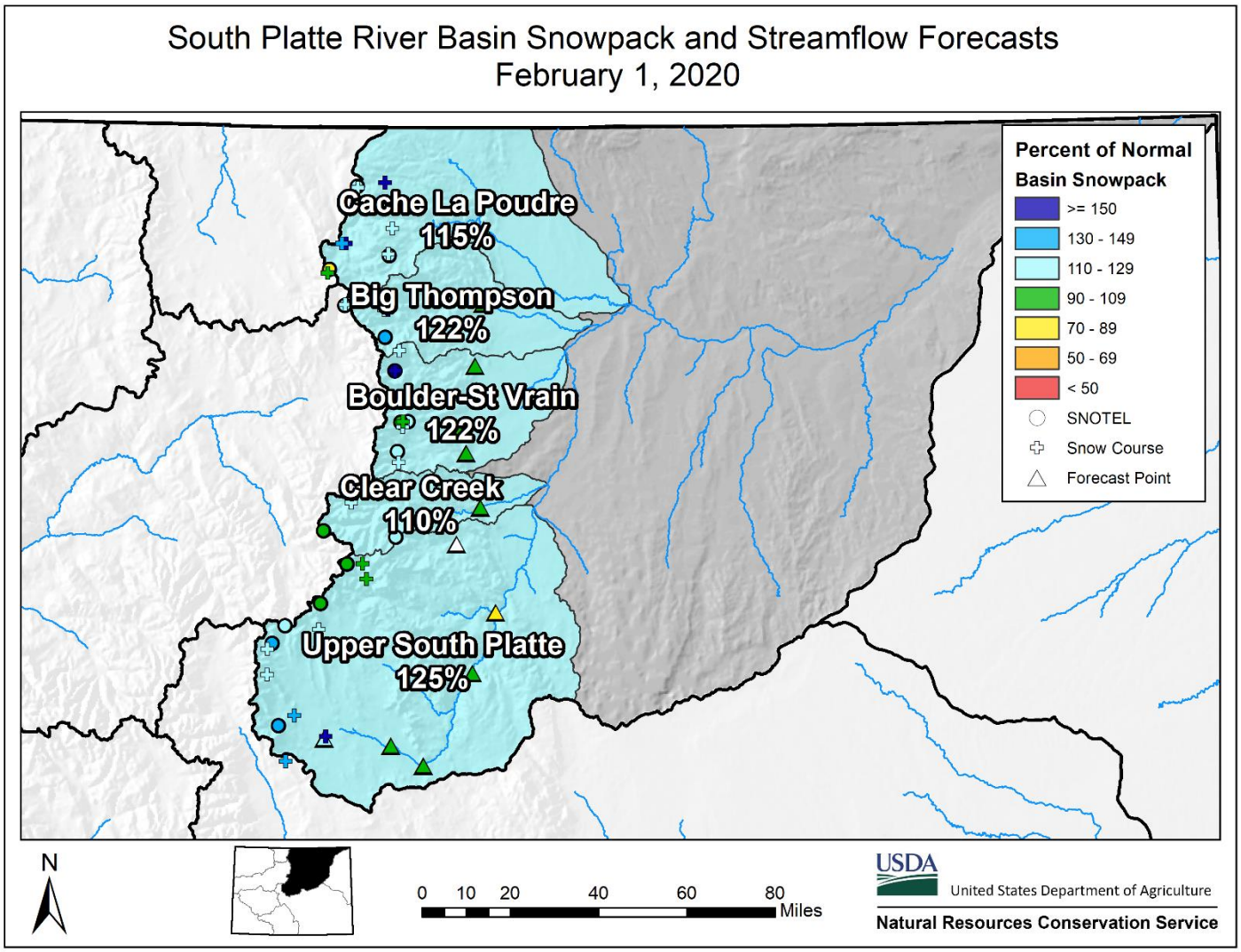
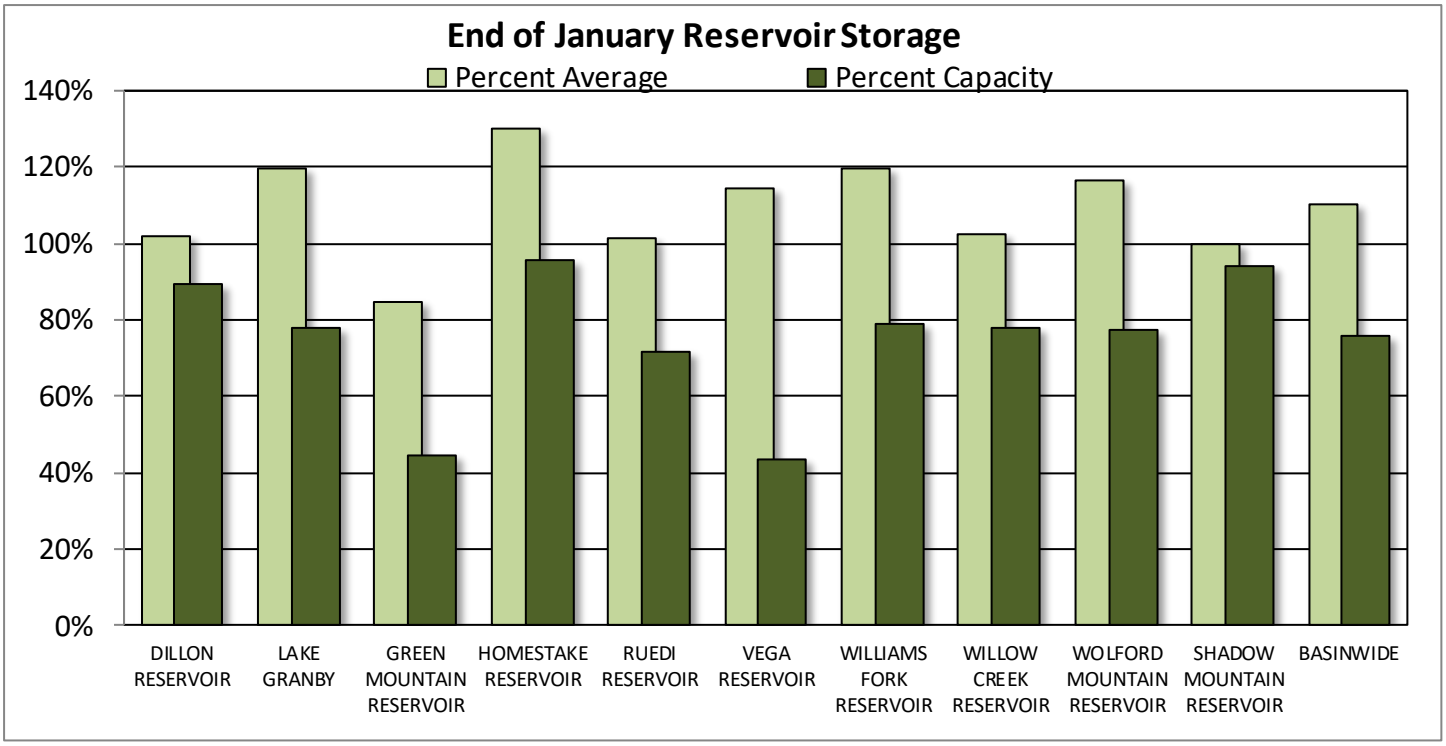




Watershed Snowpack Analysis February 1st, 2020

Sub-Basin	# of Sites	% Median	Last Year % Median
Big Thompson	7	122	104
Boulder Creek	6	112	114
Cache La Poudre	10	115	117
Clear Creek	4	110	112
Saint Vrain	2	150	127
Upper South Platte	16	125	123
Basin-Wide Total	45	119	115

*SWE values calculated using first of month SNOTEL data and snow course measurements



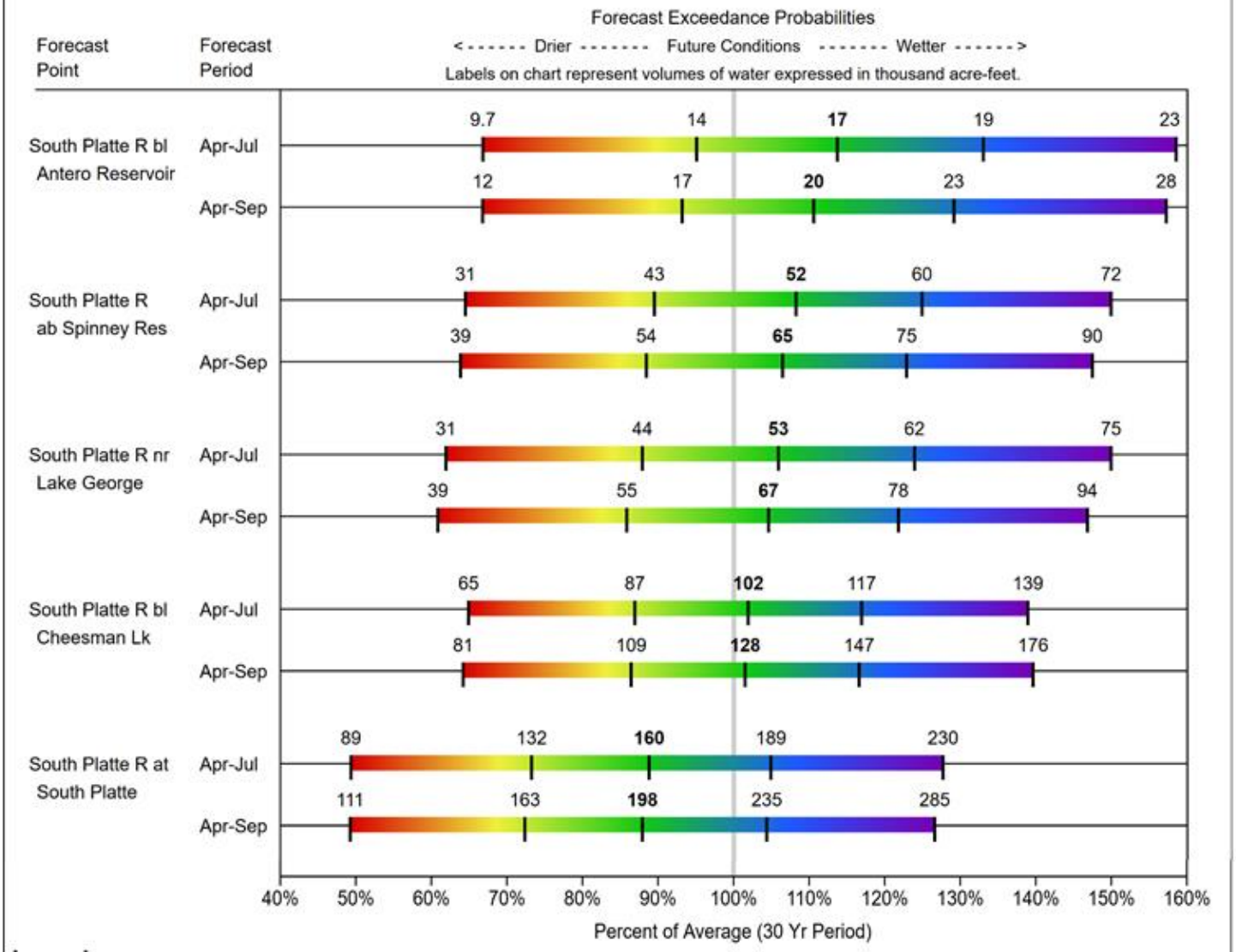
Reservoir Storage End of January 2020

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
ANTERO RESERVOIR	20.0	19.1	15.3	19.9
BARR LAKE	22.6	24.9	24.0	30.1
BLACK HOLLOW RESERVOIR	3.9	4.1	2.8	6.5
BOYD LAKE	34.1	31.5	27.8	48.4
CACHE LA POUDRE	8.0	7.2	6.4	10.1
CARTER LAKE	75.9	76.6	78.3	108.9
CHAMBERS LAKE	4.6	2.8	3.1	8.8
CHEESMAN LAKE	56.2	60.1	63.7	79.0
COBB LAKE	18.2	15.1	11.7	22.3
ELEVENMILE CANYON RESERVOIR	100.3	99.6	95.9	98.0
EMPIRE RESERVOIR	21.1	28.4	22.6	36.5
FOSSIL CREEK RESERVOIR	9.3	9.4	6.9	11.1
GROSS RESERVOIR	0.9	15.3	14.3	29.8
HALLIGAN RESERVOIR	4.7	5.1	4.5	6.4
HORSECREEK RESERVOIR	0.9	0.0	10.4	14.7
HORSETOOTH RESERVOIR	140.3	82.7	94.7	149.7
JACKSON LAKE RESERVOIR	22.6	23.7	23.1	26.1
JULESBURG RESERVOIR	17.4	16.0	16.9	20.5
LAKE LOVELAND RESERVOIR	2.8	0.0	6.8	10.3
LONE TREE RESERVOIR	6.4	7.2	6.4	8.7
MARIANO RESERVOIR	0.2	1.0	3.0	5.4
MARSHALL RESERVOIR	5.8	5.4	5.6	10.0
MARSTON RESERVOIR	9.4	8.4	5.9	13.0
MILTON RESERVOIR	17.7	21.8	15.8	23.5
POINT OF ROCKS RESERVOIR	69.7	62.4	51.1	70.6
PREWITT RESERVOIR	22.4	21.5	15.7	28.2
RIVERSIDE RESERVOIR	41.5	42.5	37.3	55.8
SPINNEY MOUNTAIN RESERVOIR	38.2	28.6	29.0	49.0
STANDLEY RESERVOIR	38.6	29.0	35.7	42.0
TERRY RESERVOIR	5.2	5.4	5.0	8.0
UNION RESERVOIR	9.1	9.4	10.0	13.0
WINDSOR RESERVOIR	10.2	8.5	8.3	15.2
BASINWIDE	838.3	772.6	758.0	1079.5
Number of Reservoirs	32	32	32	32

SOUTH PLATTE RIVER BASIN

Water Supply Forecasts

February 1, 2020



Legend

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There is a 95%/90% chance that flows will exceed this volume	There is a 70% chance that flows will exceed this volume	There is a 50% chance that flows will exceed this volume	There is a 30% chance that flows will exceed this volume	There is a 10%/5% chance that flows will exceed this volume

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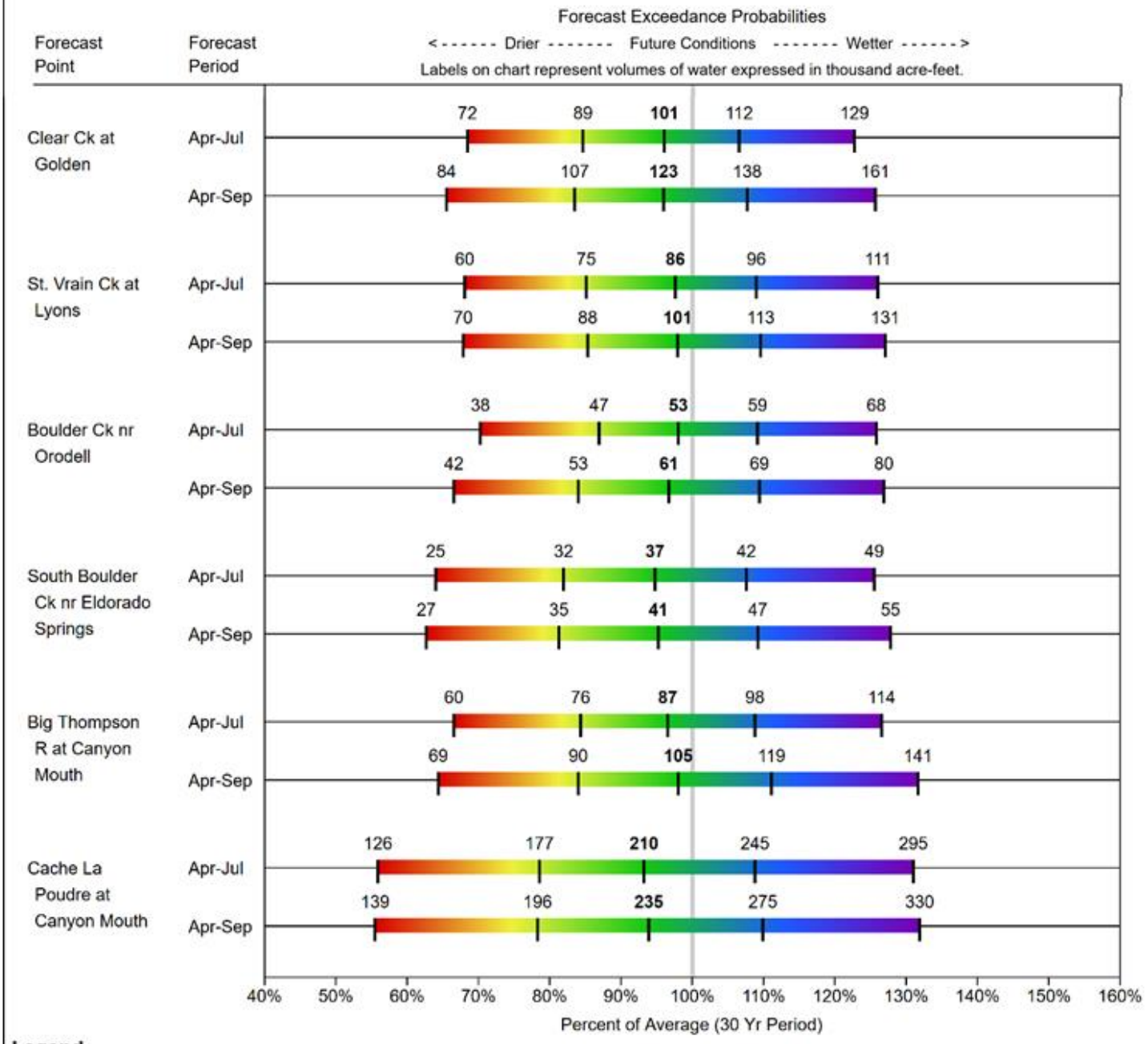
Period of Record Minimum Streamflow KAF (Year)	*1981-2010 Normal Streamflow KAF*	*Observed Streamflow KAF*	*Period of Record Maximum Streamflow KAF (Year)*

Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

SOUTH PLATTE RIVER BASIN

Water Supply Forecasts

February 1, 2020



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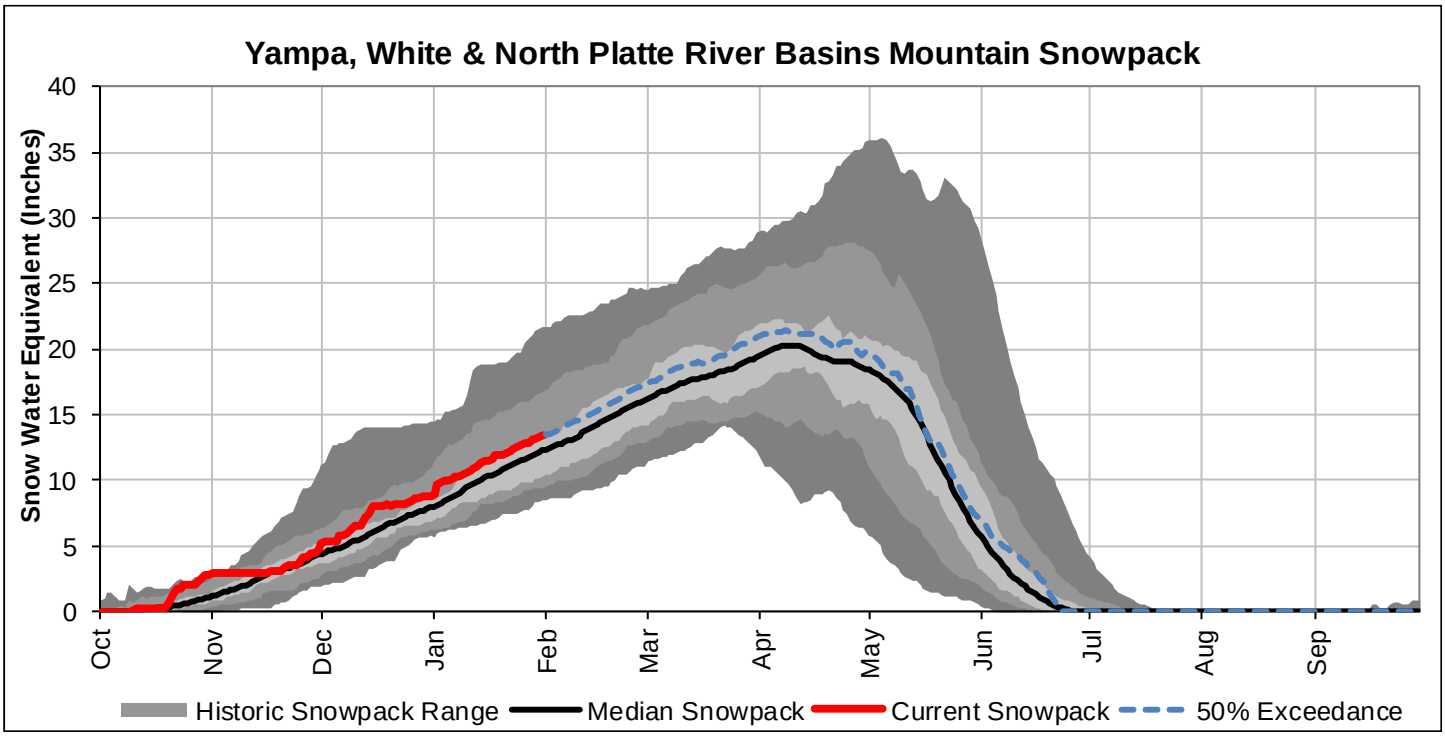
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

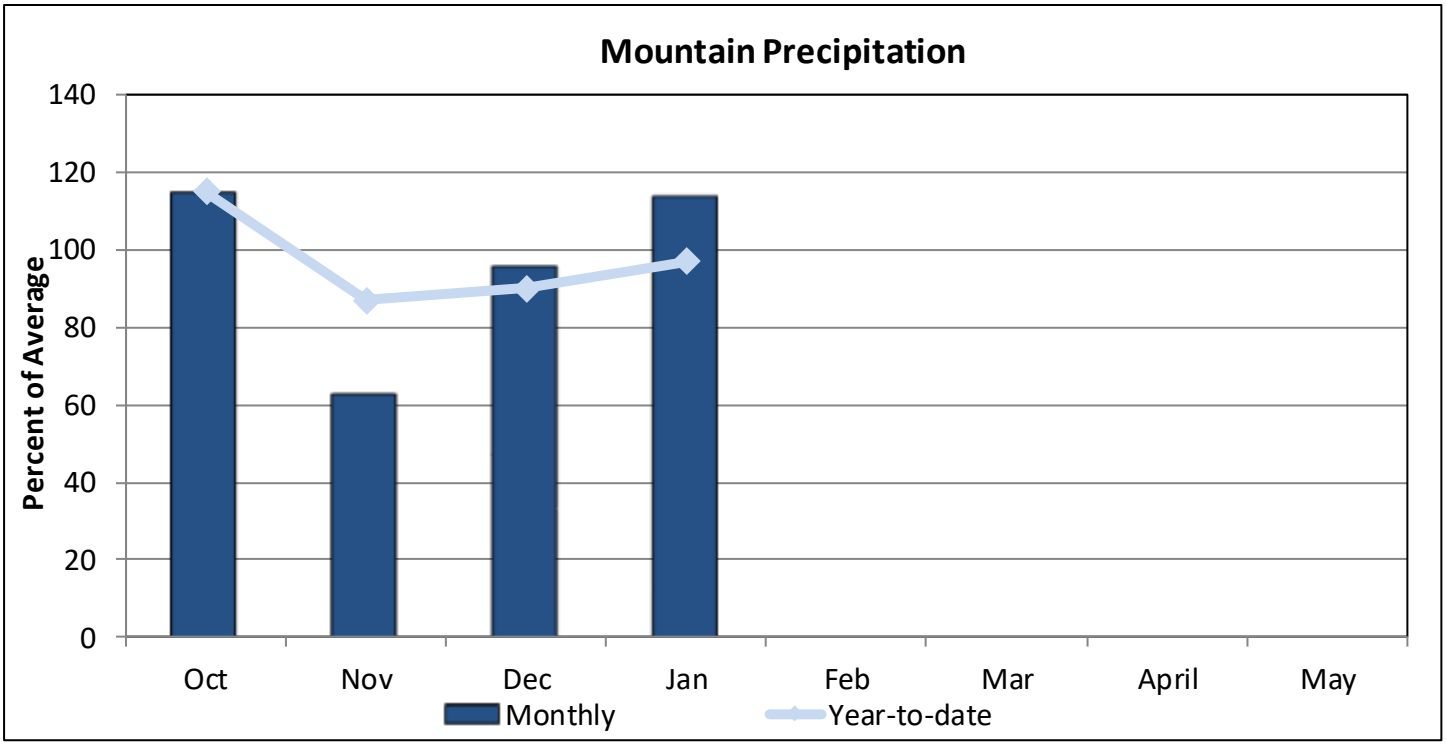
YAMPA, WHITE, NORTH PLATTE, AND LARAMIE RIVER BASINS

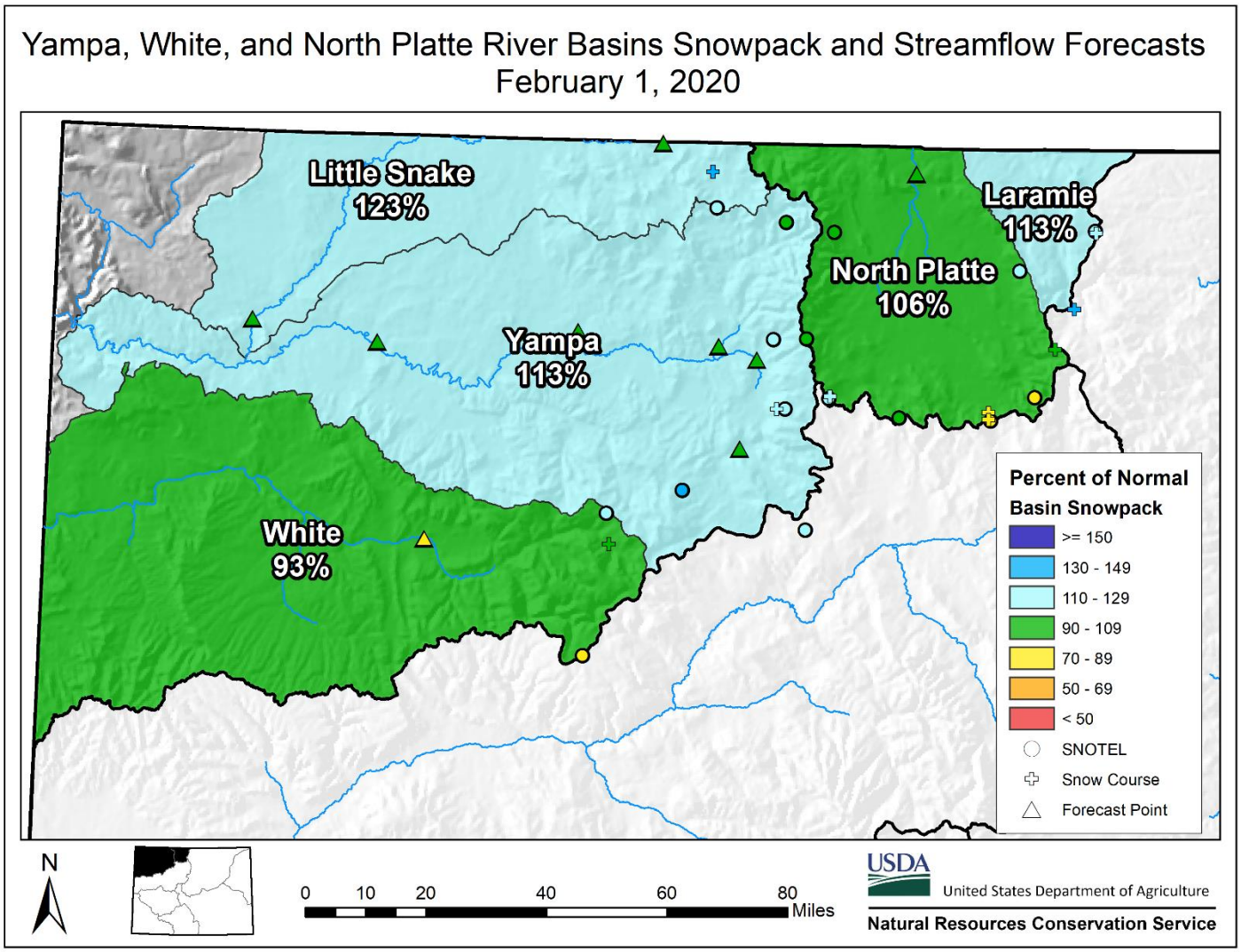
February 1, 2020

Snowpack in the Yampa, White & North Platte basins is above normal at 110% of the median. Precipitation for January was 114% of average and water year-to-date precipitation is 97% of average. Reservoir storage at the end of December was 127% of average compared to 103% last year. Current streamflow forecasts range from 82% of average for White River near Meeker to 109% for the Elk River near Milner.



*SWE values calculated using daily SNOTEL data only

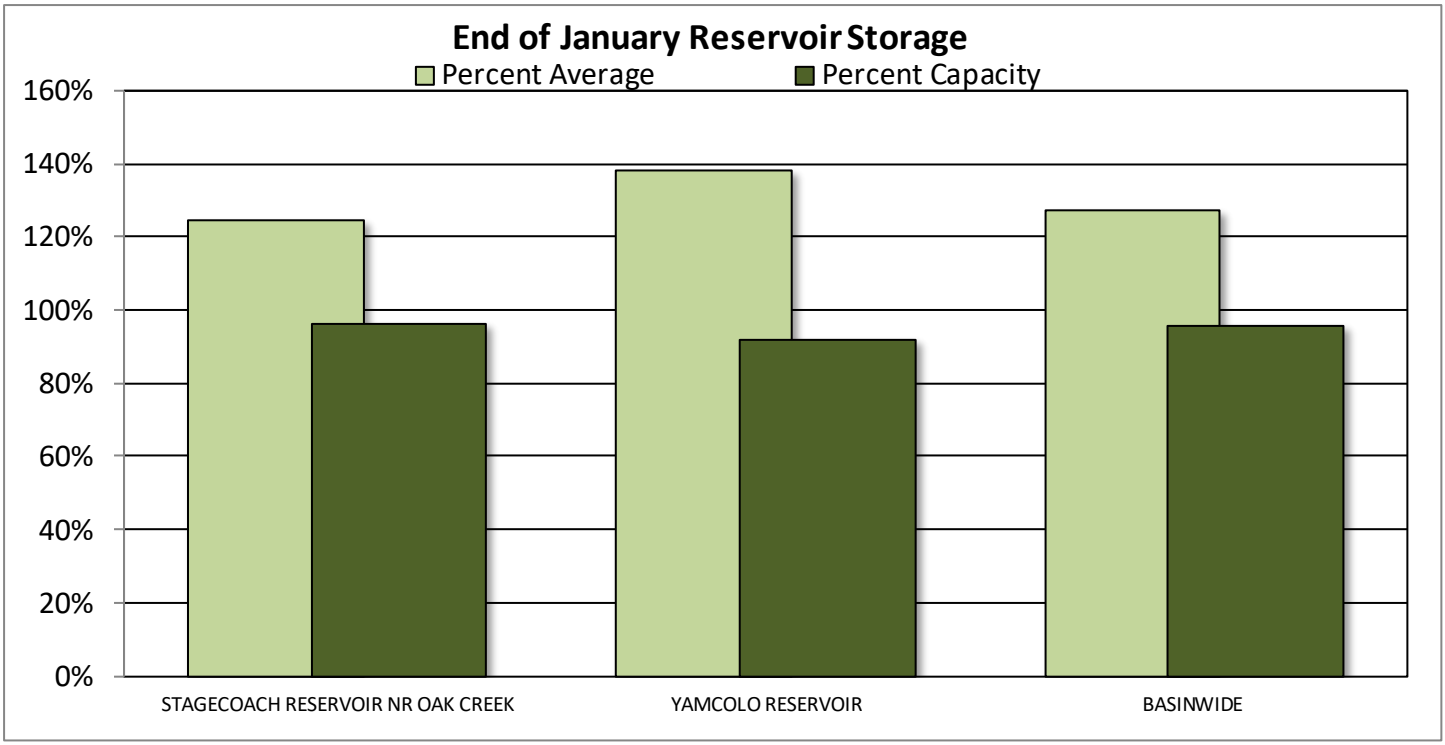




Watershed Snowpack Analysis February 1st, 2020

Sub-Basin	# of Sites	% Median	Last Year % Median
Laramie	4	113	114
North Platte	12	106	105
Total Laramie & North Platte	16	107	107
Elk	2	108	90
Yampa	11	113	109
White	4	93	114
Total Yampa & White	14	108	109
Little Snake	9	123	105
Basin-Wide Total	35	110	107

*SWE values calculated using first of month SNOTEL data and snow course measurements



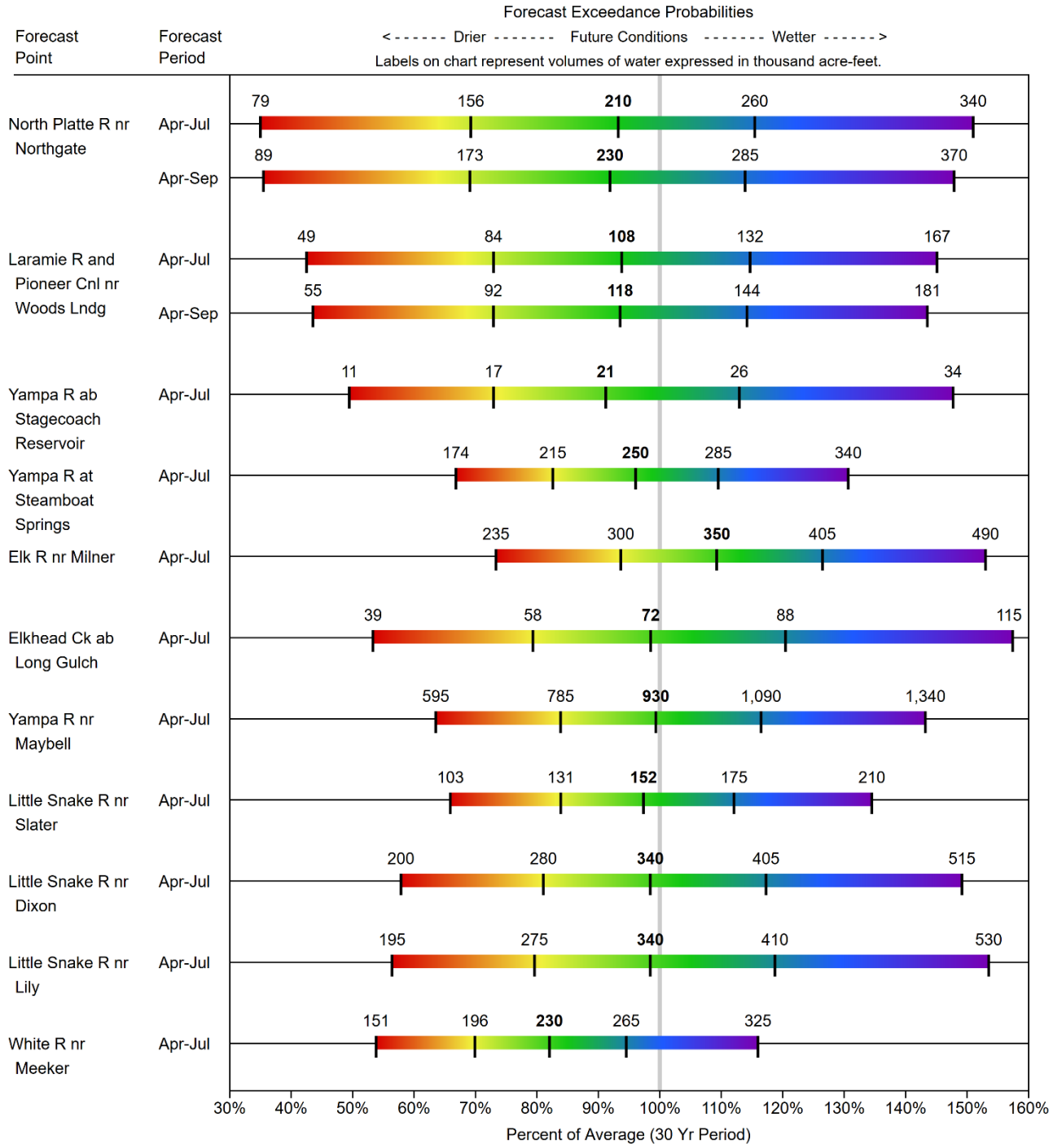
Reservoir Storage End of January 2020

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
STAGECOACH RESERVOIR NR OAK C	35.2	31.2	28.2	36.5
YAMCOLO RESERVOIR	8.0	3.8	5.8	8.7
BASINWIDE	43.2	35.0	34.0	45.2
Number of Reservoirs	2	2	2	2

YAMPA-WHITE-NORTH PLATTE RIVER BASINS

Water Supply Forecasts

February 1, 2020



Legend

95% or 90% Exceedance — There is a 95%/90% chance that flows will exceed this volume

70% Exceedance — There is a 70% chance that flows will exceed this volume

50% Exceedance — There is a 50% chance that flows will exceed this volume

30% Exceedance — There is a 30% chance that flows will exceed this volume

10% or 5% Exceedance — There is a 10%/5% chance that flows will exceed this volume

When selected, the following historic streamflow values and statistics will be shown.

Period of Record Minimum Streamflow KAF (Year)

1981-2010 Normal Streamflow KAF

Observed Streamflow KAF

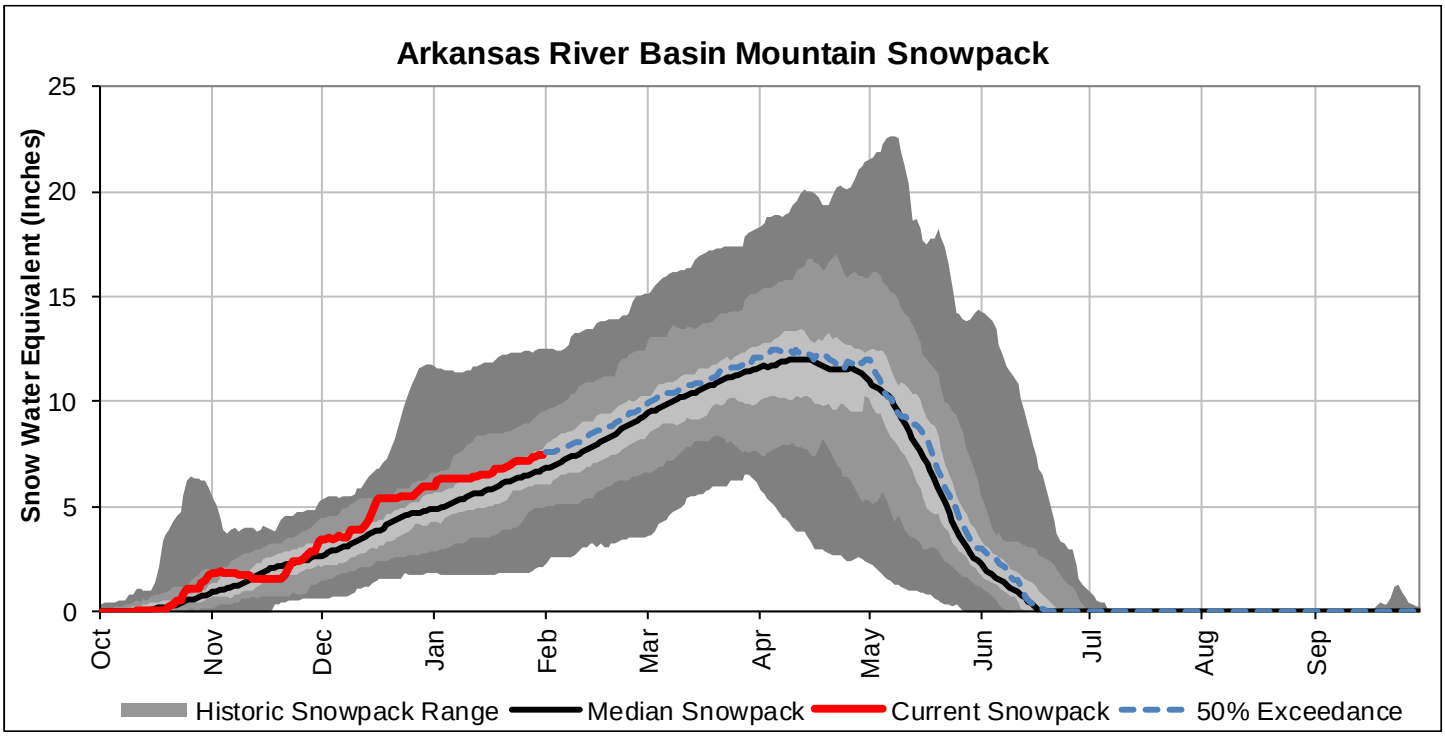
Period of Record Maximum Streamflow KAF (Year)

Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

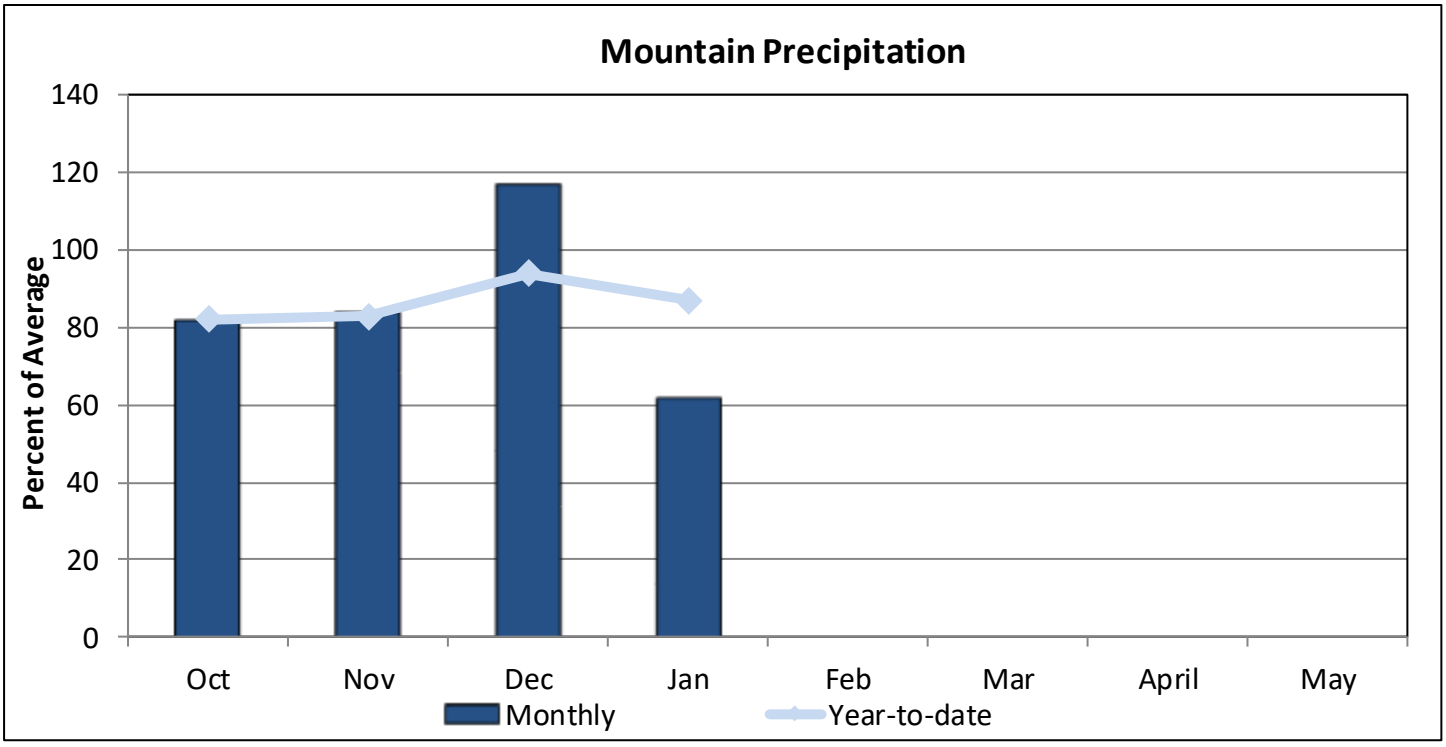
ARKANSAS RIVER BASIN

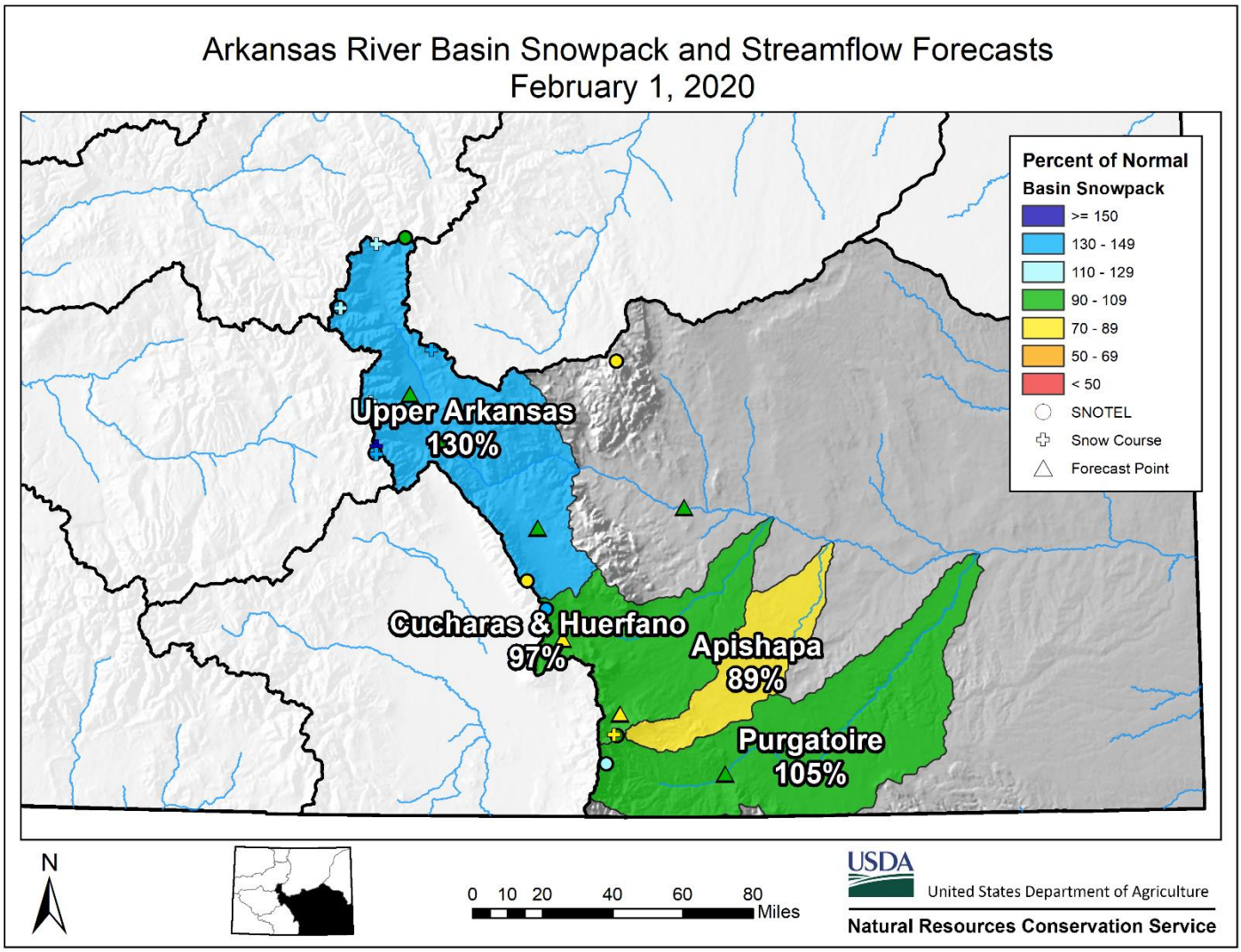
February 1, 2020

Snowpack in the Arkansas River basin is above normal at 119% of the median. Precipitation for January was 62% of average which brings water year-to-date precipitation to 87% of average. Reservoir storage at the end of December was 96% of average compared to 89% last year. Current streamflow forecasts range from 87% of average for Cucharas River near La Veta to 102% for the Arkansas River at Salida.



*SWE values calculated using daily SNOTEL data only

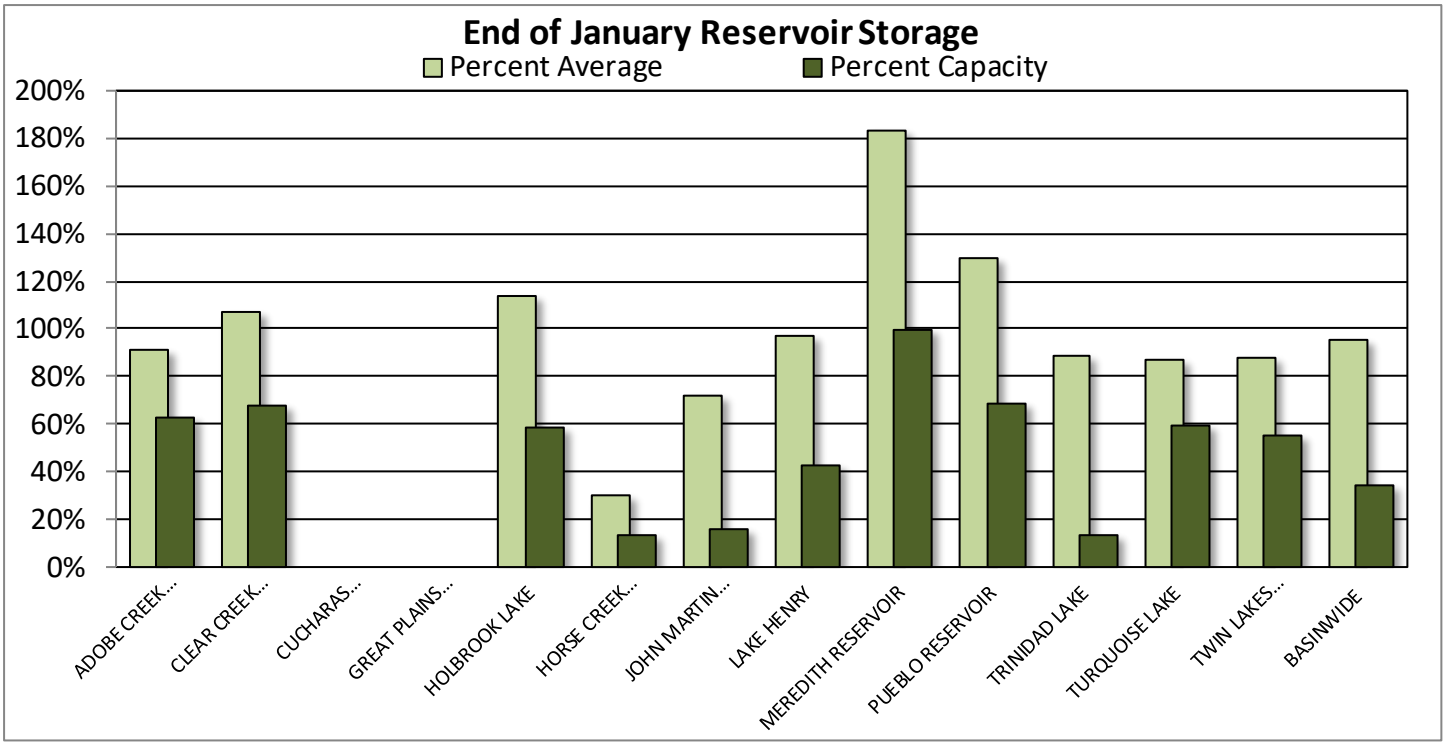




Watershed Snowpack Analysis February 1st, 2020

Sub-Basin	# of Sites	% Median	Last Year % Median
Upper Arkansas	9	130	123
Cucharas & Huerfano	4	97	126
Purgatoire	2	105	168
Basin-Wide Total	15	119	124

*SWE values calculated using first of month SNOTEL data and snow course measurements



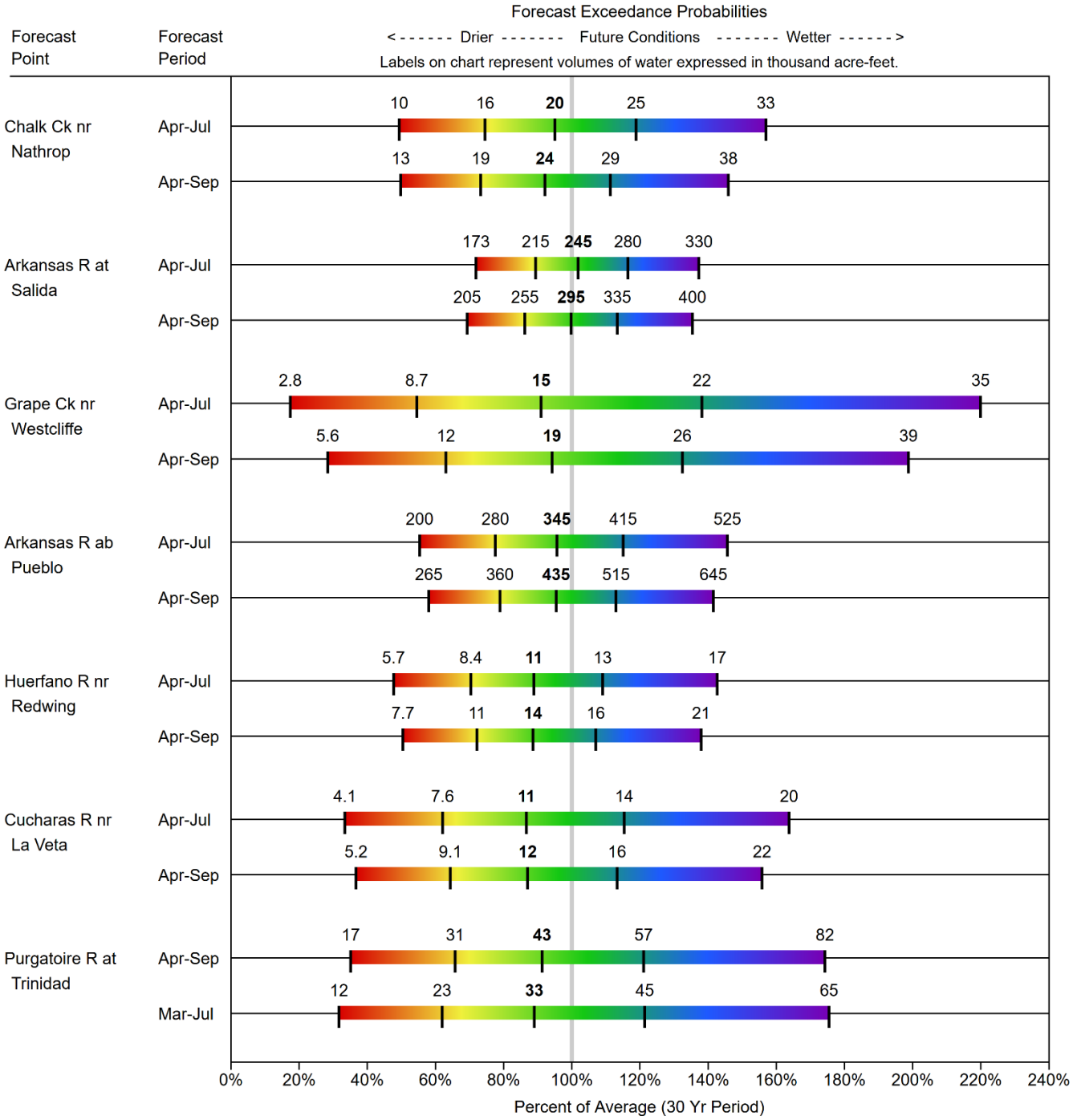
Reservoir Storage End of January 2020

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
ADOBE CREEK RESERVOIR	39.0	9.1	42.9	62.0
CLEAR CREEK RESERVOIR	7.7	7.0	7.2	11.4
CUCHARAS RESERVOIR				40.0
GREAT PLAINS RESERVOIR				150.0
HOLBROOK LAKE	4.1	0.4	3.6	7.0
HORSE CREEK RESERVOIR	3.6	18.9	12.0	27.0
JOHN MARTIN RESERVOIR	98.0	154.9	135.9	616.0
LAKE HENRY	4.0	7.0	4.1	9.4
MEREDITH RESERVOIR	41.9	25.5	22.9	42.0
PUEBLO RESERVOIR	243.2	204.8	187.5	354.0
TRINIDAD LAKE	22.8	20.9	25.6	167.0
TURQUOISE LAKE	75.2	58.0	86.3	127.0
TWIN LAKES RESERVOIR	47.5	40.4	54.3	86.0
BASINWIDE	586.8	546.9	582.3	1698.8
Number of Reservoirs	11	11	11	13

ARKANSAS RIVER BASIN

Water Supply Forecasts

February 1, 2020



Legend

95% or 90% Exceedance	70% Exceedance	**50% Exceedance**	30% Exceedance	10% or 5% Exceedance
There is a 95%/90% chance that flows will exceed this volume	There is a 70% chance that flows will exceed this volume	There is a 50% chance that flows will exceed this volume	There is a 30% chance that flows will exceed this volume	There is a 10%/5% chance that flows will exceed this volume

When selected, the following historic streamflow values and statistics will be shown.

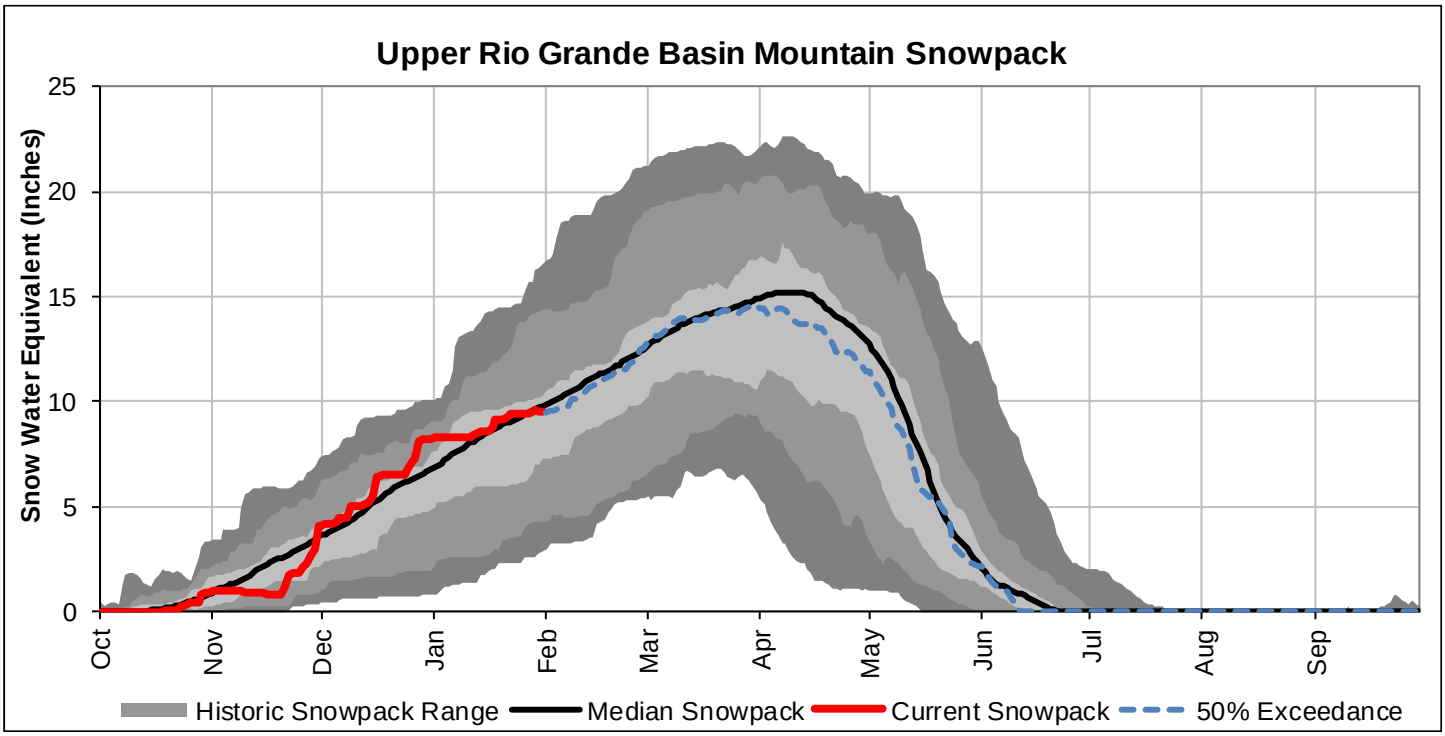
Period of Record Minimum Streamflow KAF (Year)	*1981-2010 Normal Streamflow KAF*	*Observed Streamflow KAF*	*Period of Record Maximum Streamflow KAF (Year)*

Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

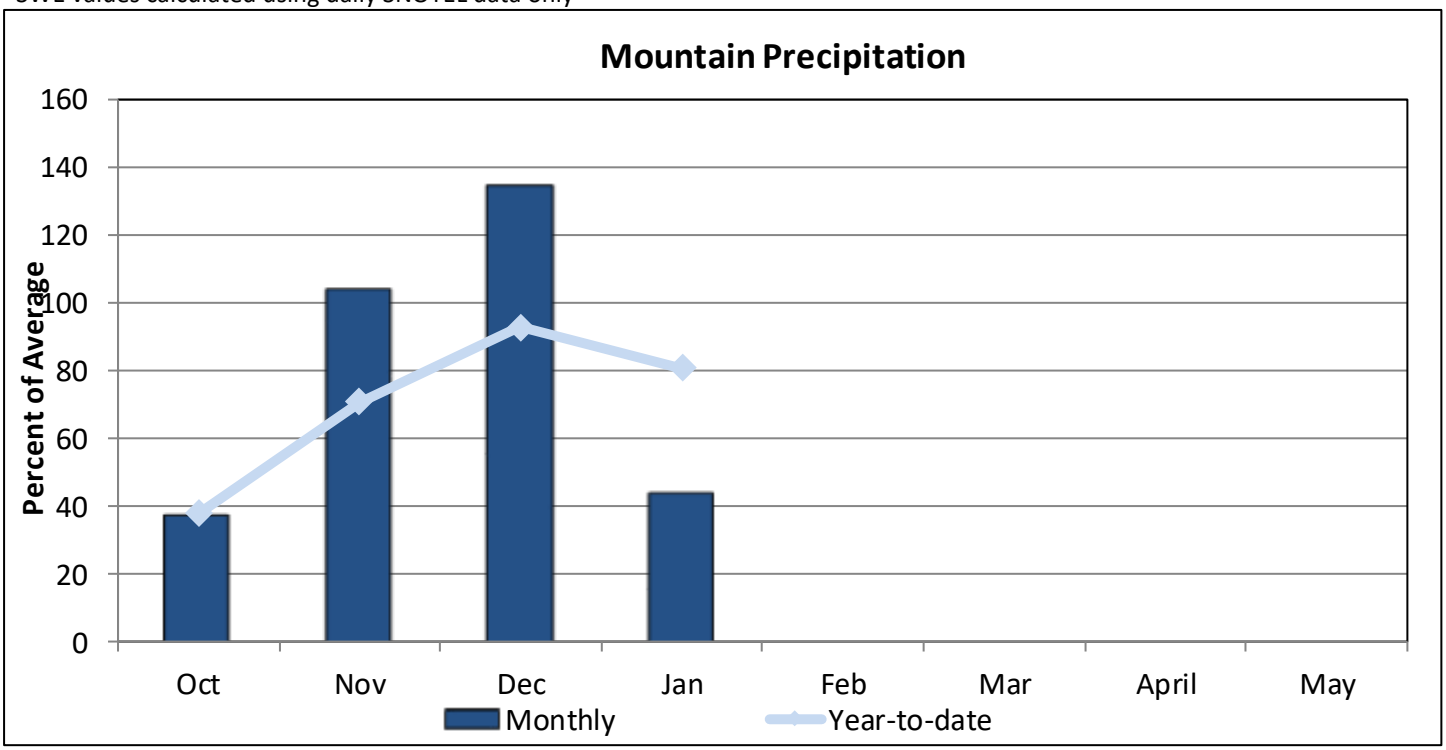
UPPER RIO GRANDE RIVER BASIN

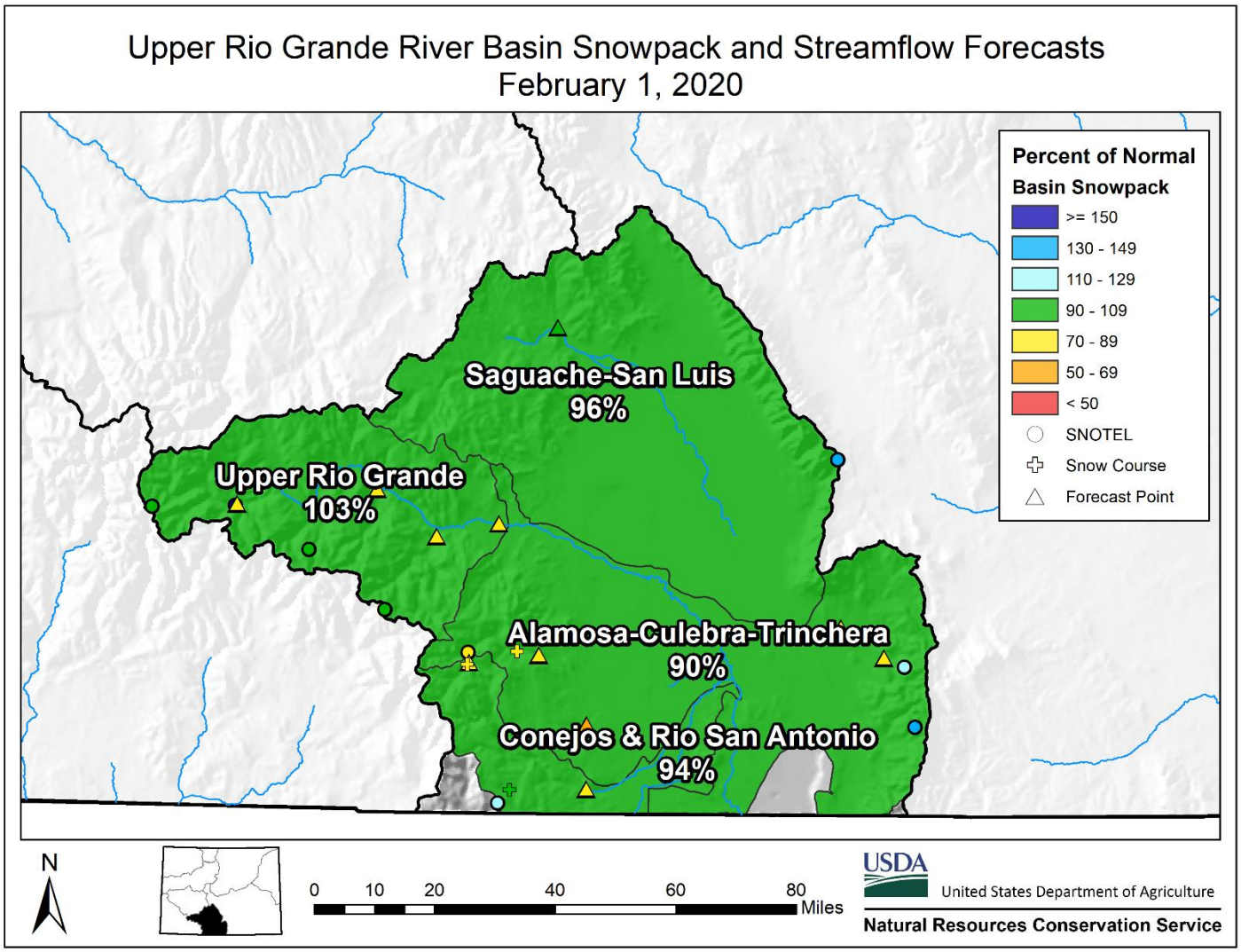
February 1, 2020

Snowpack in the Upper Rio Grande River basin is above normal at 103% of median. Precipitation for January was 44% of average which brings water year-to-date precipitation to 81% of average. Reservoir storage at the end of December was 85% of average compared to 79% last year. Current streamflow forecasts range from 67% of average for La Jara Creek near Capulin to 97% for Saguache Creek near Saguache.



*SWE values calculated using daily SNOTEL data only

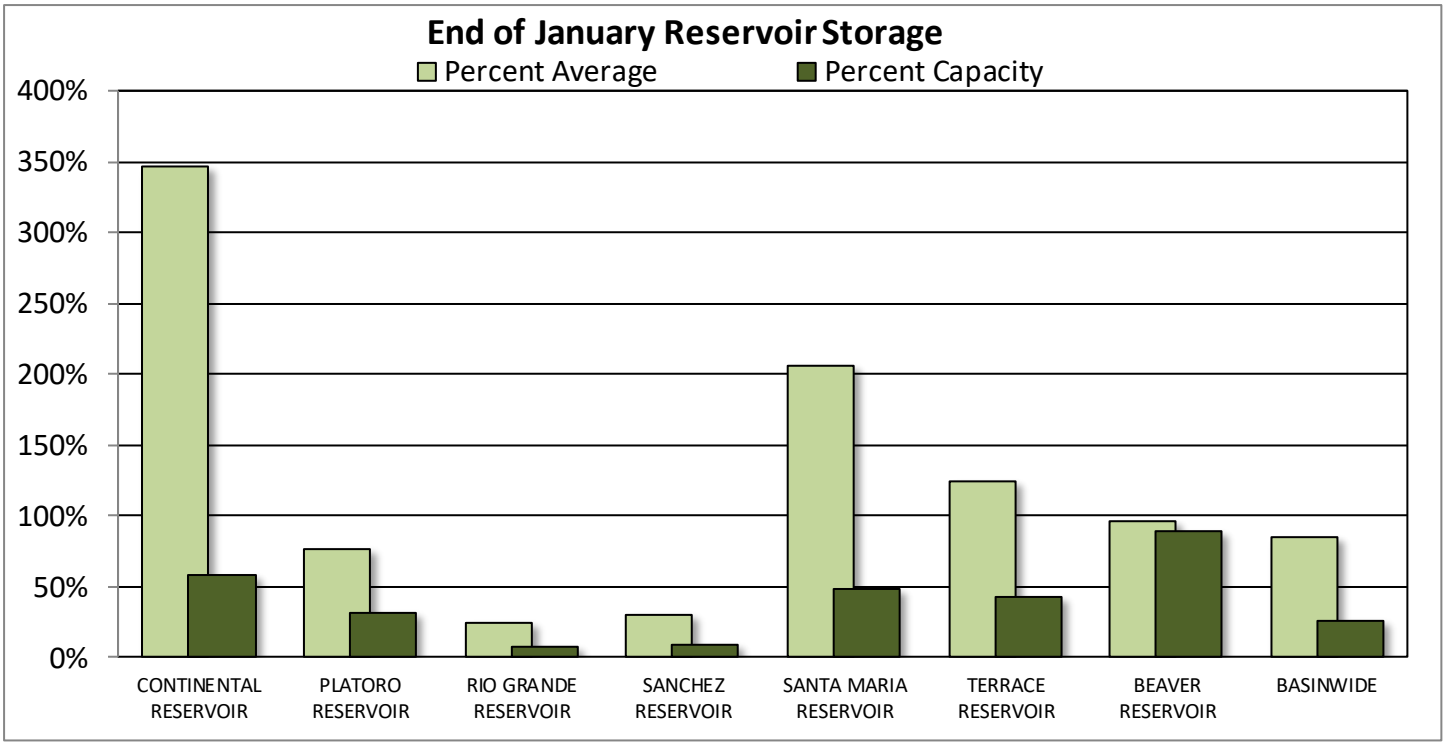




Watershed Snowpack Analysis February 1st, 2020

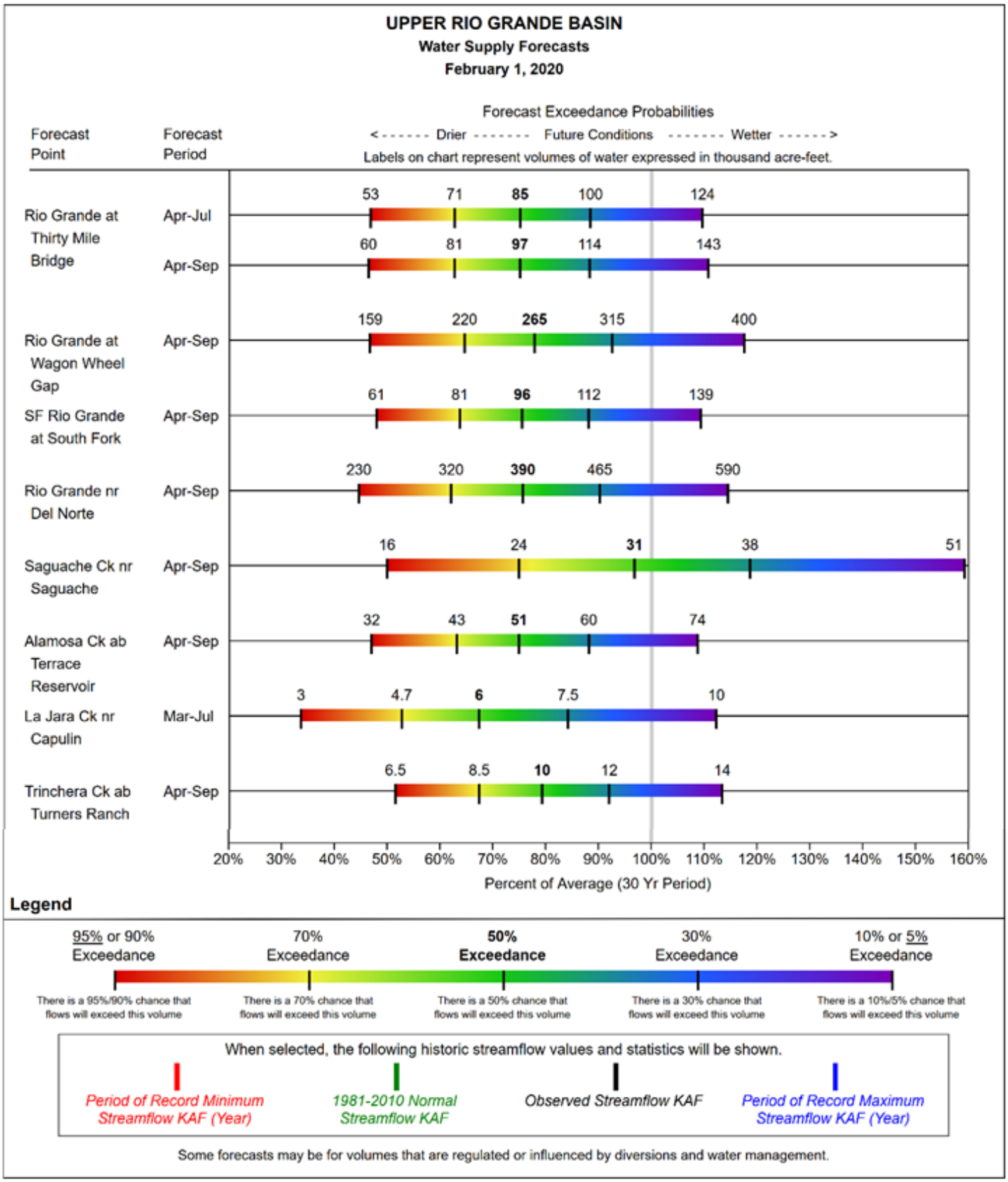
Sub-Basin	# of Sites	% Median	Last Year % Median
Alamosa Creek	3	83	51
Conejos & Rio San Antonio	4	94	67
Culebra & Trinchera Creek	3	117	99
Upper Rio Grande	6	103	84
Basin-Wide Total	15	103	81

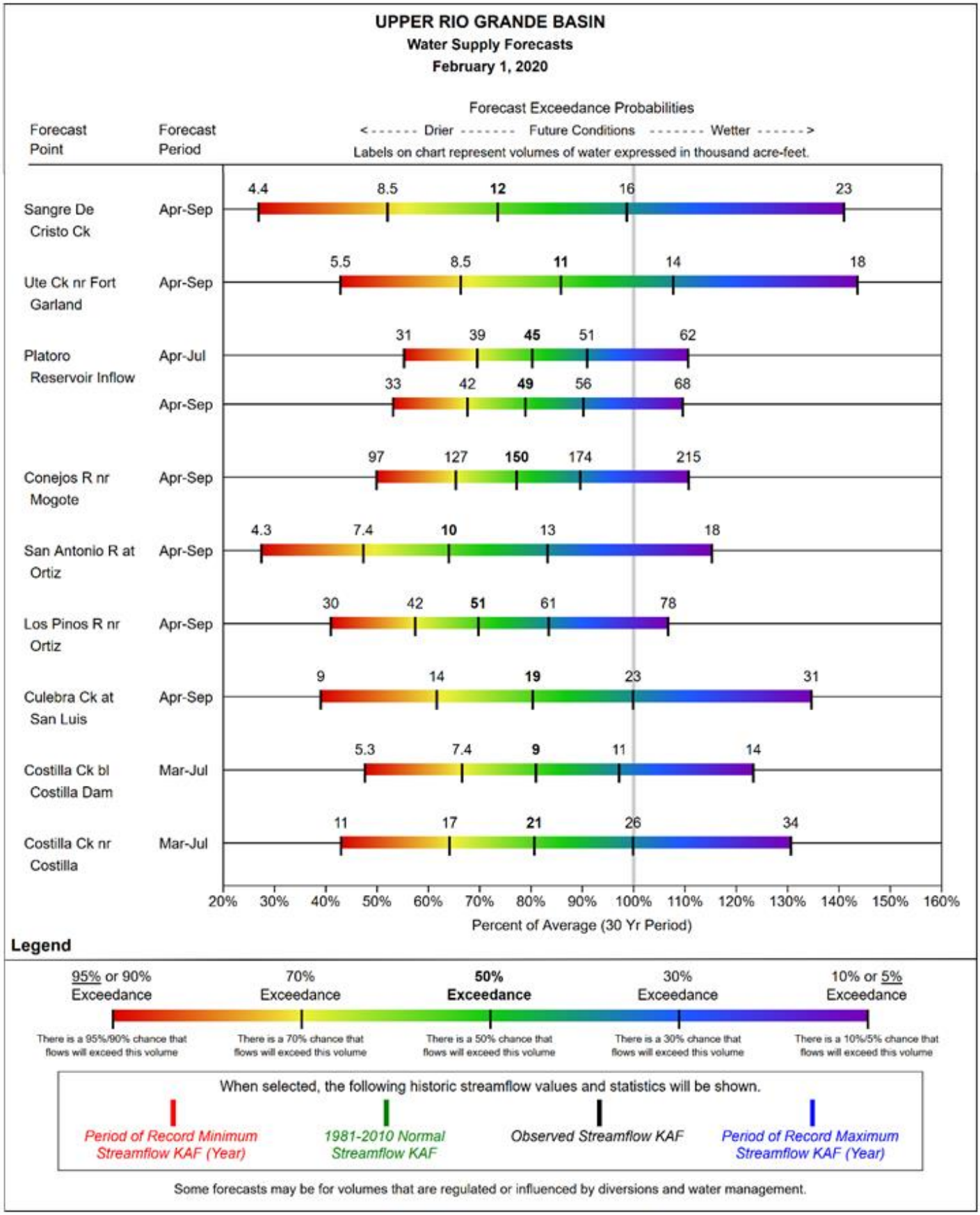
*SWE values calculated using first of month SNOTEL data and snow course measurements



Reservoir Storage End of January 2020

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
CONTINENTAL RESERVOIR	15.6	15.2	4.5	27.0
PLATORO RESERVOIR	18.4	19.1	24.0	60.0
RIO GRANDE RESERVOIR	4.0	0.0	16.3	51.0
SANCHEZ RESERVOIR	8.3	7.5	27.6	103.0
SANTA MARIA RESERVOIR	21.6	23.8	10.5	45.0
TERRACE RESERVOIR	7.7	4.0	6.2	18.0
BEAVER RESERVOIR	4.0	3.8	4.2	4.5
BASINWIDE	79.5	73.4	93.3	308.5
Number of Reservoirs	7	7	7	7


UPPER RIO GRANDE BASIN
Water Supply Forecasts
February 1, 2020
Forecast Exceedance Probabilities
Forecast Point
Forecast Period
< - - - - - - Drier - - - - - - - Future Conditions - - - - - - - Wetter - - - - - - >
Labels on chart represent volumes of water expressed in thousand acre-feet.
Rio Grande at Thirty Mile Bridge
Apr-Jul
53 71 85 100 124
Apr-Sep
60 81 97 114 143
Rio Grande at Wagon Wheel Gap
Apr-Sep
159 220 265 315 400
SF Rio Grande at South Fork
Apr-Sep
61 81 96 112 139
Rio Grande nr Del Norte
Apr-Sep
230 320 390 465 590
Saguache Ck nr Saguache
Apr-Sep
16 24 31 38 51
Alamosa Ck ab Terrace Reservoir
Apr-Sep
32 43 51 60 74
La Jara Ck nr Capulin
Mar-Jul
3 4.7 6 7.5 10
Trinchera Ck ab Turners Ranch
Apr-Sep
6.5 8.5 10 12 14
20% 30% 40% 50% 60% 70% 80% 90% 100% 110% 120% 130% 140% 150% 160%
Percent of Average (30 Yr Period)
Legend
95% or 90% Exceedance
There is a 95%/90% chance that flows will exceed this volume
70% Exceedance
There is a 70% chance that flows will exceed this volume
50% Exceedance
There is a 50% chance that flows will exceed this volume
30% Exceedance
There is a 30% chance that flows will exceed this volume
10% or 5% Exceedance
There is a 10%/5% chance that flows will exceed this volume
When selected, the following historic streamflow values and statistics will be shown.
Period of Record Minimum Streamflow KAF (Year)
1981-2010 Normal Streamflow KAF
Observed Streamflow KAF
Period of Record Maximum Streamflow KAF (Year)
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.


UPPER RIO GRANDE BASIN
Water Supply Forecasts
February 1, 2020
Forecast Exceedance Probabilities
Forecast Point
Forecast Period
< ------- Drier -------- Future Conditions -------- Wetter ------- >
Labels on chart represent volumes of water expressed in thousand acre-feet.
Sangre De Cristo Ck
Apr-Sep
4.4
8.5
12
16
23
Ute Ck nr Fort Garland
Apr-Sep
5.5
8.5
11
14
18
Platoro Reservoir Inflow
Apr-Jul
31
39
45
51
62
Apr-Sep
33
42
49
56
68
Conejos R nr Mogote
Apr-Sep
97
127
150
174
215
San Antonio R at Ortiz
Apr-Sep
4.3
7.4
10
13
18
Los Pinos R nr Ortiz
Apr-Sep
30
42
51
61
78
Culebra Ck at San Luis
Apr-Sep
9
14
19
23
31
Costilla Ck bl Costilla Dam
Mar-Jul
5.3
7.4
9
11
14
Costilla Ck nr Costilla
Mar-Jul
11
17
21
26
34
20%
30%
40%
50%
60%
70%
80%
90%
100%
110%
120%
130%
140%
150%
160%
Percent of Average (30 Yr Period)
Legend
95% or 90% Exceedance
There is a 95%/90% chance that flows will exceed this volume
70% Exceedance
There is a 70% chance that flows will exceed this volume
50% Exceedance
There is a 50% chance that flows will exceed this volume
30% Exceedance
There is a 30% chance that flows will exceed this volume
10% or 5% Exceedance
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When selected, the following historic streamflow values and statistics will be shown.
Period of Record Minimum Streamflow KAF (Year)
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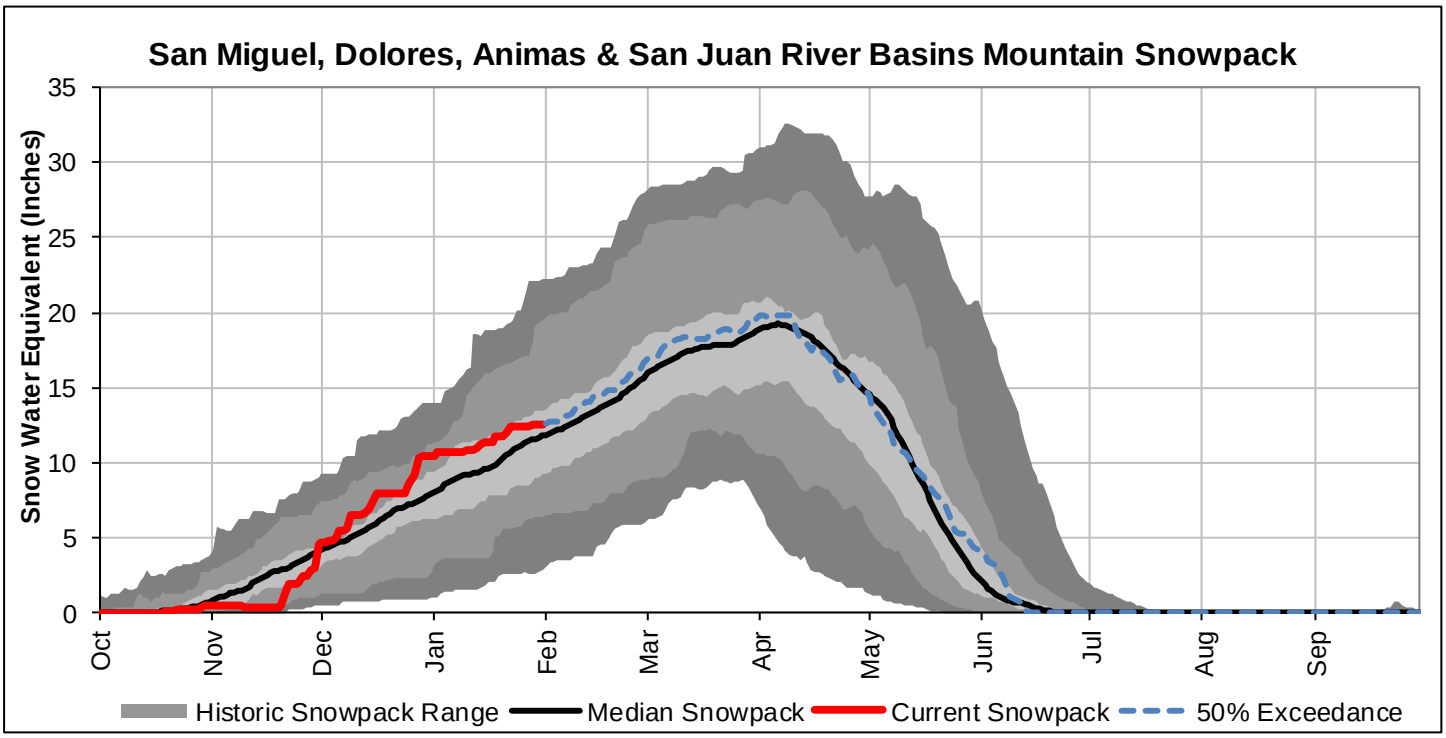
Observed Streamflow KAF
Period of Record Maximum Streamflow KAF (Year)
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

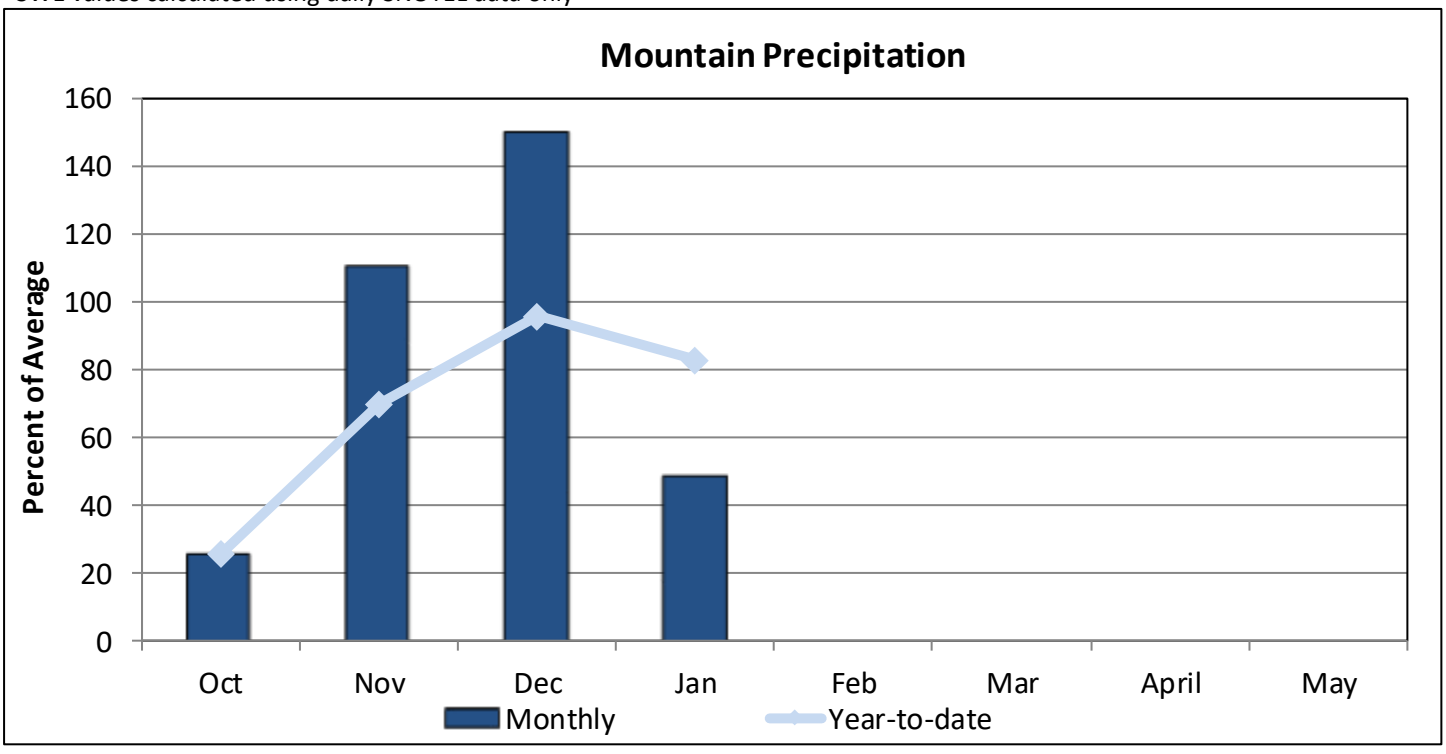
SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS

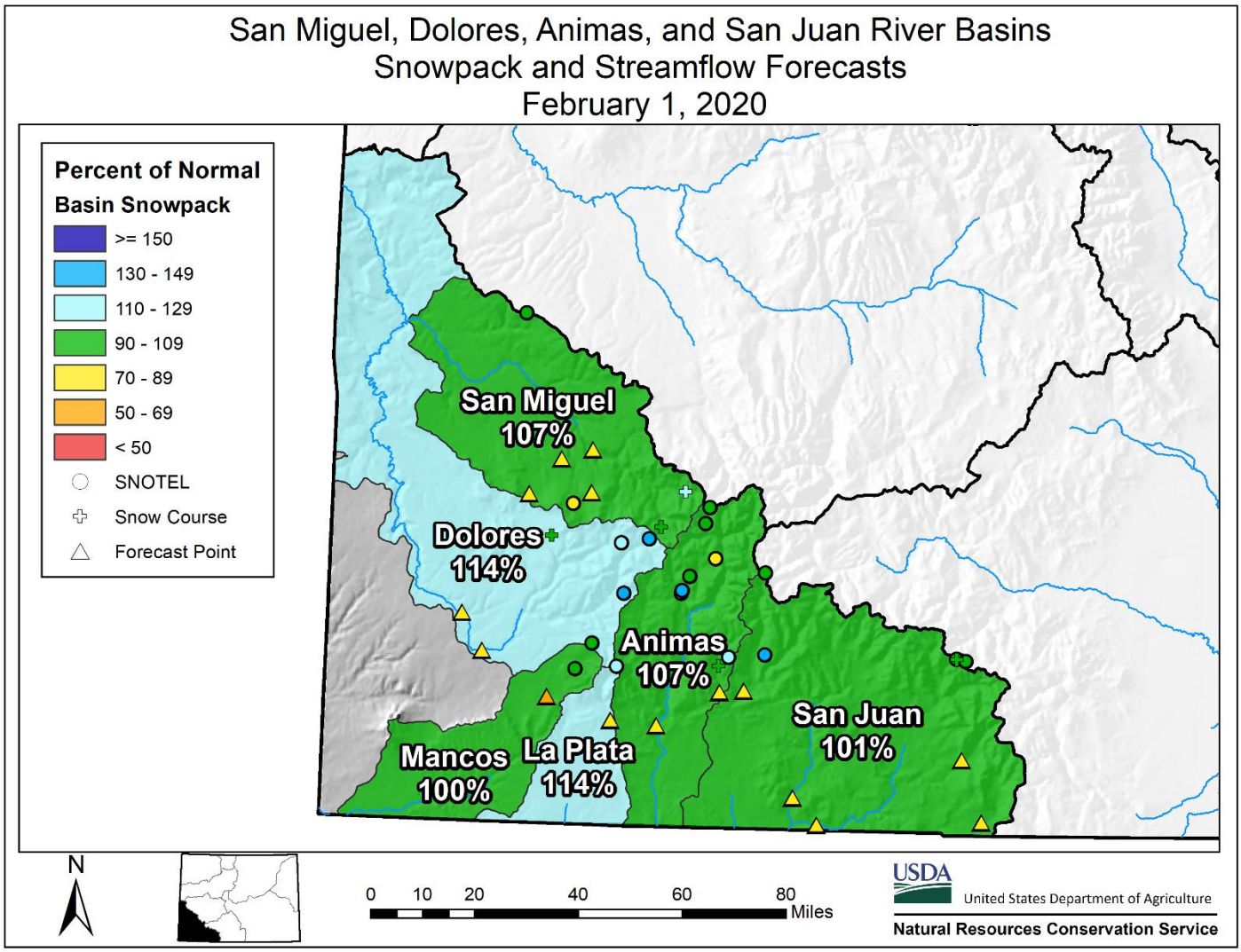
February 1, 2020

Snowpack in the combined southwest river basins is above normal at 106% of median. Precipitation for January was 49% of average which brings water year-to-date precipitation to 83% of average. Reservoir storage at the end of December was 107% of average compared to 57% last year. Current streamflow forecasts range from 68% of average for the Mancos River near Mancos to 84% for the San Miguel River near Placerville.



*SWE values calculated using daily SNOTEL data only

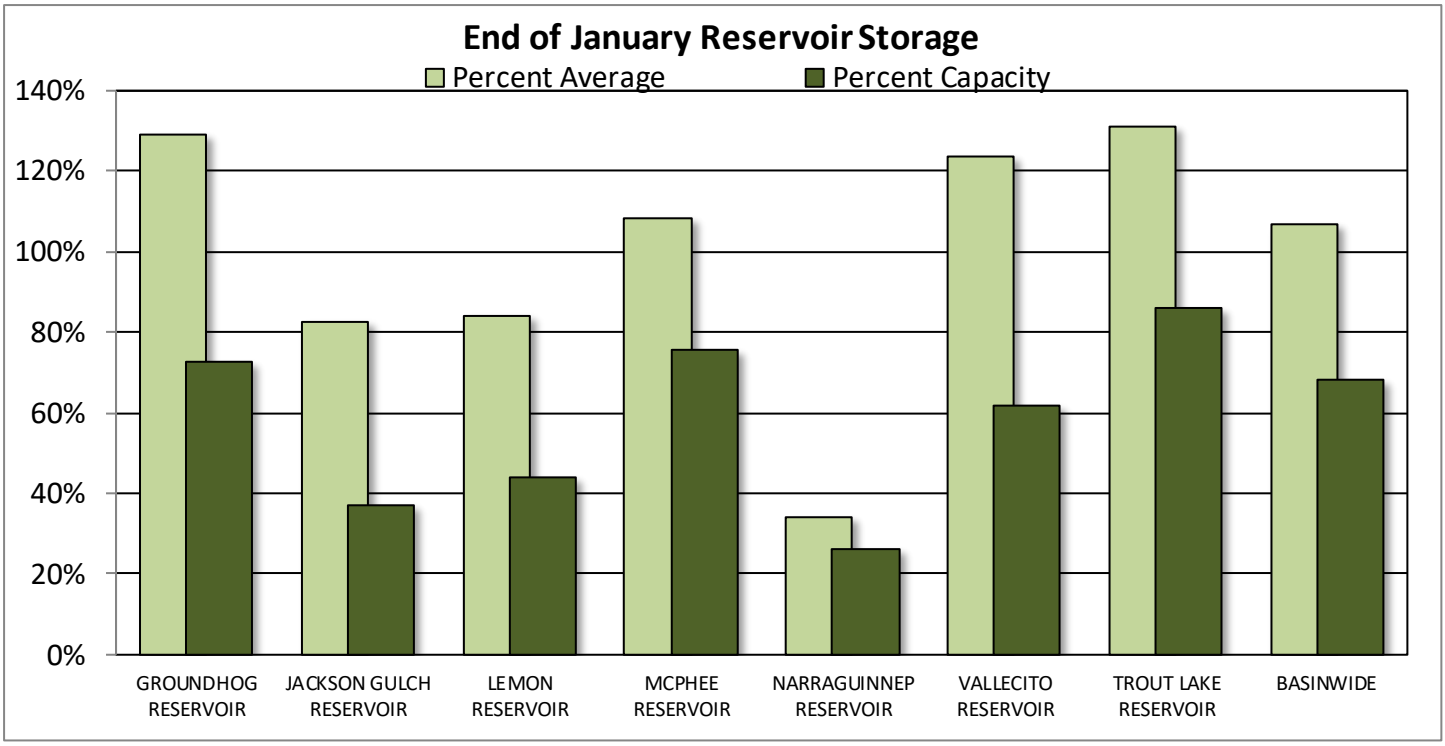




Watershed Snowpack Analysis February 1st, 2020

Sub-Basin	# of Sites	% Median	Last Year % Median
Animas	10	107	94
Dolores	6	114	93
San Miguel	5	107	91
San Juan	4	101	76
Basin-Wide Total	24	106	89

*SWE values calculated using first of month SNOTEL data and snow course measurements



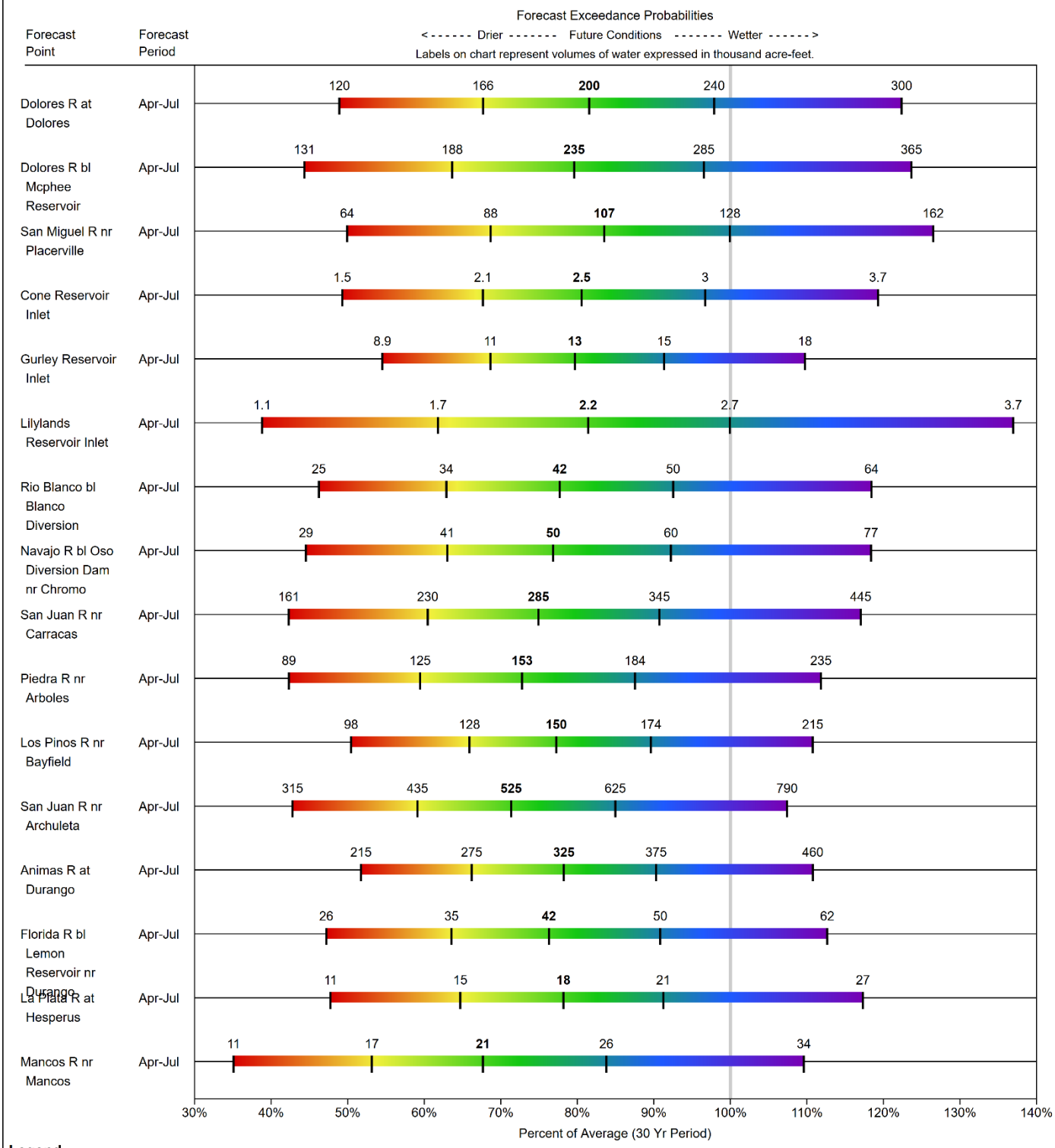
Reservoir Storage End of January 2020

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
GROUNDHOG RESERVOIR	16.0	0.2	12.4	22.0
JACKSON GULCH RESERVOIR	3.7	1.7	4.5	10.0
LEMON RESERVOIR	17.5	6.9	20.9	40.0
MCPHEE RESERVOIR	288.3	168.6	266.4	381.0
NARRAGUINNEP RESERVOIR	5.0	2.5	14.7	19.0
VALLECITO RESERVOIR	78.2	37.2	63.3	126.0
TROUT LAKE RESERVOIR	2.8	2.4	2.1	3.2
BASINWIDE	411.4	219.5	384.3	601.2
Number of Reservoirs	7	7	7	7

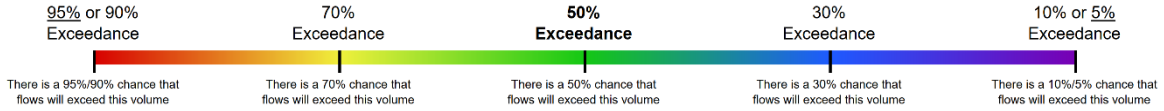
SAN MIGUEL-DOLORES-ANIMAS-SAN JUAN RIVER BASINS

Water Supply Forecasts

February 1, 2020



Legend



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1981-2010 Normal Streamflow KAF

Observed Streamflow KAF

Period of Record Maximum Streamflow KAF (Year)

Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

How to Read Snowpack Graphs

The graphs show snow water equivalent (SWE) (in inches), using daily SNOTEL data. for the October 1 through September 30 water year. Basin "observed" SWE values are computed using SNOTEL sites which are characteristic of the snowpack of the particular basin. The SWE observations at these sites are averaged and normalized to produce these basin snowpack graphs.

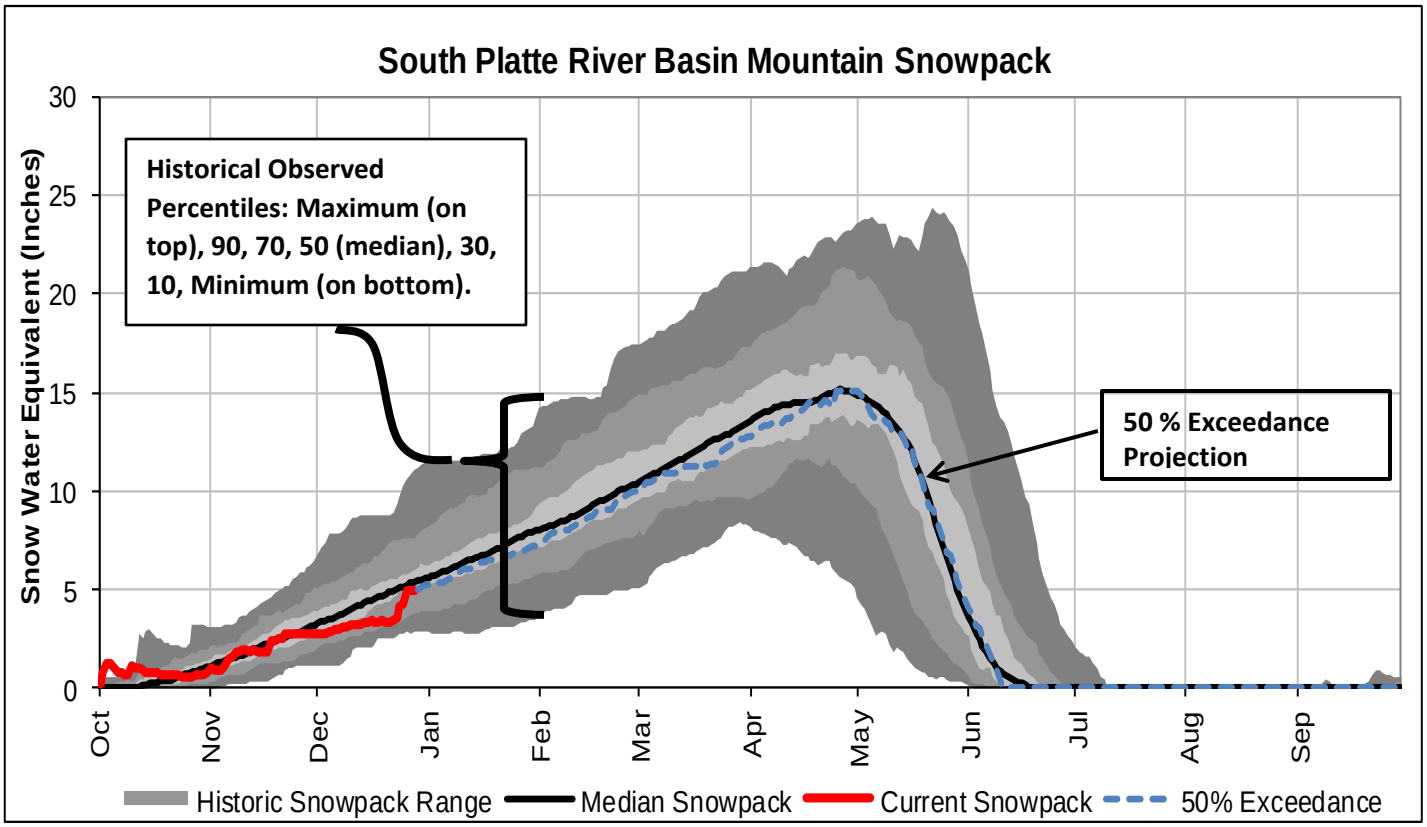
Current water year is represented by the heavy red line terminating on the last day the graphic was updated.

Historical observed percentile range is shown as a gray background area on the graph. Shades of gray indicate maximum, 90 percentile, 70 percentile, 50 percentile (solid black line), 30 percentile, 10 percentile, and minimum for the period of record.

50 % Exceedance Projection: The most probabilistic snowpack projection, based on the median snowpack is projected forward from the end of the current period to the end of the current water year.

For more detailed information on these graphs visit:

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_062291.pdf



How Forecasts Are Made

For more water supply and resource management information, contact:

Brian Domonkos
Snow Survey Supervisor
USDA, Natural Resources Conservation Service
Denver Federal Center, Bldg 56, Rm 2604
PO Box 25426
Denver, CO 80225-0426
Phone (720) 544-2852
Website: http://www.nrcs.usda.gov/wps/portal/nrcs/main/co/snow/

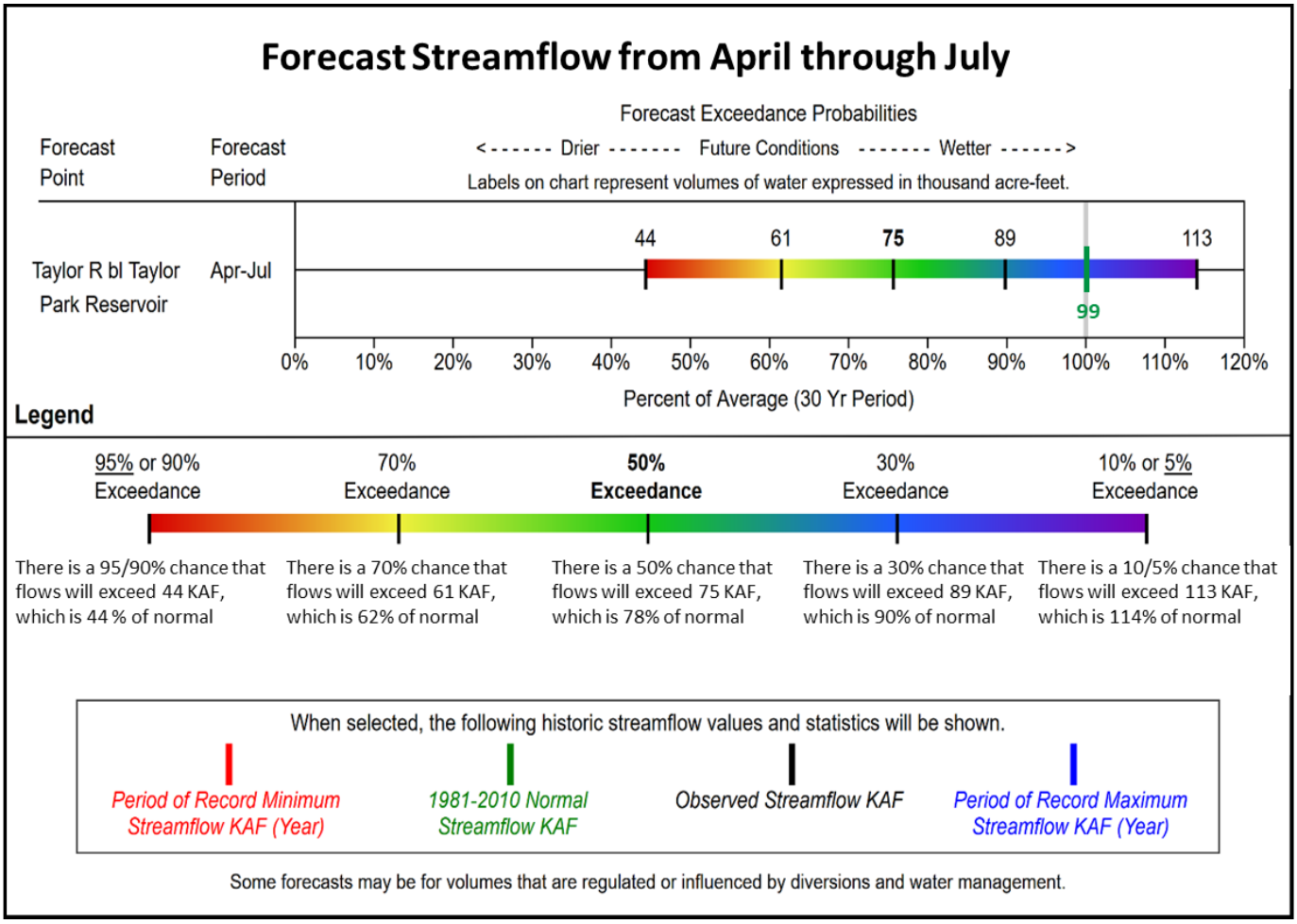
Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

Interpreting the Forecast Graphics

These graphics provide a new way to visualize the range of streamflows represented by the forecast exceedance probabilities for each forecast period. The colors in the bar for each forecast point indicate the exceedance probability of the forecasts and the vertical lines on the bar signify the five published forecast exceedance probabilities. The numbers displayed above the color scale represent the actual forecasted streamflow volume (in KAF) for the given exceedance probability. The horizontal axis provides the percent of average represented by each forecast and the gray line centered above 100% represents the 1981-2010 historical average streamflow. The position of the gray line relative to the color scale provides a benchmark for considering future streamflows. If the majority of the forecast range is to the right of the gray line, there is a higher likelihood of above average streamflow volumes during the provided forecast period. Conversely, if the majority of the color bar is to the left of the average mark, below average volumes are more likely. The horizontal span of the forecasts offers an indication of the uncertainty in a given forecast: when the bar spans a large horizontal range, the forecast skill is low and uncertainty is high; when the bar is narrow in width, the forecast skill is higher and uncertainty lower.



Denver Federal Center, Bldg 56, Rm 2604
PO Box 25426
Denver, CO 80225-0426

In addition to the water supply outlook reports, water supply forecast information for the Western United States is available from the Natural Resources Conservation Service and the National Weather Service monthly, January through June. The information may be obtained from the Natural Resources Conservation Service web page at http://www.wcc.nrcs.usda.gov/wsf/westwide.html

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Clint Evans
State Conservationist
Natural Resources Conservation Service
Lakewood, Colorado

Colorado
Water Supply Outlook Report
Natural Resources Conservation Service
Lakewood, CO